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67.

UNDER THE SUPERINTENDENCE OF THE SOCIETY FOR THE DIFFUSION OF USEFUL KNOWLEDGE.

THE

SCHOOLMASTER:

ESSAYS ON PRACTICAL EDUCATION,

SELECTED FROM THE

WORKS OF ASCHAM, MILTON, LOCKE, AND BUTLER;

FROM

THE QUARTERLY JOURNAL OF EDUCATION;

AND FROM

LECTURES DELIVERED BEFORE THE

AMERICAN INSTITUTE OF INSTRUCTION.

IN TWO VOLUMES.—VOL. I.

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THE SCHOOLMASTER.

AN ANALYTICAL ACCOUNT OF ASCHAM'S "SCHOOLMASTER."

[ROGER ASCHAM was born at Kirby-Wiske, or Kirby-upon-Wiske, near Northallerton, in Yorkshire, about the year 1515. His father, whose name was John, was steward to Lord Scroop, and is said to have been a man of very superior understanding, as well as of eminent integrity: his mother was of a good family. They had two other sons, Thomas and Anthony, both born before Roger, as well as several daughters. John Ascham and his wife are stated to have died on the same day, and almost in the same hour, after a union of forty-seven years.

Roger, who appears to have been born in his father's old age, was in his boyhood taken into the house of Sir Anthony Wingfield, to be educated, at the expense of that gentleman, along with his two sons. Their tutor was a Mr. Bond. Here he so greatly took Sir Anthony, by the love he showed for reading, and the rapid progress he made in his studies, that this generous patron resolved to complete his kindness by sending him to the University. He was accordingly entered of St. John's College, Cambridge, about the year 1530. He soon greatly distinguished himself in this new sphere, especially by his progress in the knowledge of the Greek language,

then new as a general study in England, and the most fashionable of all others. He is said to have acquired the language principally by teaching it to others, a course which he pursued by the advice of his friend, Mr. Robert Pember, who told him that he would learn more by reading to a boy a single fable of Æsop, than by hearing others read Latin lectures on the whole Iliad. He took his degree of B.A. on the 28th February, 1534; and on the 23rd March following was elected Fellow of his college. We shall give, at the proper place, the passage in his "Schoolmaster," in which he relates how he obtained his fellowship through the management of Dr. Nicholas Medcalf, the master of the college, although he had already made himself obnoxious to the authorities by the inclination he had begun to show for the reformed faith. In 1536 he took his degree of M.A. In 1544, he published, with a dedication to Henry VIII., his first work, under the title of "Toxophilus; the School or Partitions of Shooting, contained in two books." It is a treatise in defence of archery, which was at this time Ascham's favourite pastime. Henry was much pleased with this production, and settled a small pension upon the author, who was also the same year chosen to succeed his friend, Sir John Cheke, as University orator.

Among Ascham's other accomplishments was great skill in penmanship. Such was his reputation in this line, that he was employed to teach writing to the king's children, Prince Edward and the Princess Elizabeth, as well as to many of the young nobility. In 1546, one of his pupils, Mr. William Grindal, had been selected to be

tutor, in the Greek and Latin languages, to the Princess Elizabeth. He died in 1548, and upon this Ascham was invited to court to supply his place. After a short time, however, he appears to have taken offence at something that happened, on which he threw up his appointment, and returned to the University. But in 1550, while he was on a visit to his relations in Yorkshire, he was recalled to court to attend Sir Richard Morysine, who was about to proceed on an embassy to the Emperor Charles V. It was while iourneying to London on this occasion that he paid the visit to Lady Jane Grey, of which we shall quote in the sequel the account given by himself in his "Schoolmaster." He embarked with the ambassador for Germany in September 1550, and he remained on the continent for about three years, having in the course of that time visited Italy. In 1552, while residing at the Court of the Emperor, he wrote a small tract, which was afterwards published, under the title of "A Report and Discourse of the Affairs and State of Germany," in the form of a letter to Mr. John Astley, one of the persons of the Princess Elizabeth's establishment. He appears to have been still abroad when he was appointed, through the interest of Sir William Cecil, Latin Secretary to King Edward VI. The death of Edward, however, in 1552, deprived him both of his places and of his pension, which had been continued to him by that king. In these circumstances, he retired again to the University, conceiving that all his prospects of advancement at court were gone.

It is greatly to the credit of Bishop Gardiner, then

Lord Chancellor, that on the recommendation of Lord Paget, although perfectly aware of Ascham's attachment to the doctrines of the reformers, he replaced him in his post of Latin Secretary; and not only procured him the restoration of his old pension of ten pounds a year, but induced the Queen to double its amount. He retained, likewise, his place of public orator to the University, and his fellowship in St. John's, till the 1st of June, 1554, when he married Margaret Howe, a lady of good family, with whom he is said to have received a considerable fortune.

He continued in great favour with Queen Mary during the remainder of her reign; but his constant residence at court appears only to have commenced after the accession of Elizabeth. That queen both continued him in his office of Latin Secretary, and reinstated him in his former office of her tutor in the Greek and Latin languages. He continued to read the classics with her for some hours every day so long as he lived. Among several benefactions which he received from her Majesty was a prebendal stall in the cathedral of York, which she bestowed upon him in 1559, and which he held till his death.

It was in 1563 that he commenced the composition of his principal work, entitled "The Schoolmaster; or a plain and perfect way of teaching children to understand, write, and speak the Latin tongue, but especially purposed for the private bringing up of youth in gentlemen and noblemen's houses, and commodious, also, for all such as have forgot the Latin tongue, and would, by

themselves, without a schoolmaster, in short time, and with small pains, receive a sufficient ability to understand, write, and speak Latin." The circumstances which led to his undertaking this performance shall be related presently.

He did not live to publish it. It has been supposed that the work was not even completed; but, in his preface, the author expressly says that it was. Ascham is said to have early injured his health through his application to study, and at last to have become so weak as to be unable to read at night. On this account he used to rise very early in the morning. A few years before his death (not the year before, as stated in the Biographia Britannica) he had a hectic attack, by which he was greatly reduced; and having, while still suffering from this cause, imprudently resumed his night studies, in his eagerness to finish a Latin poem which he intended to present to the Queen at the new year, he brought on a severe fit of ague on the 23rd of December, 1568, which terminated his life on the 30th of the same month. On this event, Elizabeth is said to have declared, that she would sooner have thrown ten thousand pounds into the sea than lost her tutor Ascham; a saying which is of course admired, as every thing belonging to that able and successful princess is admired, from old English habits; though it proves but a moderately disinterested love of her instructor, and though all who knew the cold heart and selfish nature of that royal hypocrite must be aware that for twenty thousand she would have had him hanged.

A singular part of Ascham's character was his addiction to dice and cock-fighting. Collier, in his Dictionary, says, "He was an honest man, and a good shooter, archery (whereof he wrote a book called *Toxophilus*) being his principal exercise in his youth, which in his old age he exchanged for a worse pastime, neither so healthful for his body nor profitable for his purse; I mean cock-fighting, which very much impaired his estate, so that he died rich only in two books, his *Toxophilus* and *Scholarcha*, wherein lay both his estate and monument." He proposed, indeed, and seems to have actually begun, to write a treatise upon his favourite sport, under title of "The Book of the Cock-pit," as we shall see from a passage in his "Schoolmaster," in which he apparently alludes to some disrepute to which he had exposed himself by the habits we have mentioned. Both studious and religious as he was, Ascham was no ascetic, but seems to have had a keen zest for the pleasures of society. In a curious epistle written from Germany, to his friend Raven, one of the fellows of St. John's, he says: "For understanding of the Italian I am meet well; but surely I drink Dutch better than I speak Dutch. (He means German.) Tell Mr. D. Maden, I will drink with him now a carouse of wine; and would to God he had a vessel of Rhenish wine, on condition that I paid forty shillings for it; and, perchance, when I come to Cambridge, I will so provide here, that every year I will have a little piece of Rhenish wine." He is also said to have been a proficient in music.

Ascham left three sons, Giles, Dudley, and Sturmur,

the eldest of whom obtained a scholarship at St. John's through the interest of Lord Burleigh, and was afterwards appointed to a fellowship of Trinity College by Queen Elizabeth's mandate. He became distinguished for the elegance of his Latin epistolary style.

The only other productions of Ascham that have been printed, besides those already mentioned, are a collection of his Latin letters and poems, made by Mr. Grant, master of Westminster School, the first edition of which appeared in 1576, and a Latin tract against the Romish mass, entitled "Apologia pro Cœna Dominica contra Missam et ejus præstigias," said by Anthony Wood to have been published at London in 1577.

His "Schoolmaster" was first published in 4to, at London, in 1571, according to the title-page, but in 1573 according to the colophon, and again, in the same form, in 1589. An edition of the work, in 8vo, with notes by Mr. Upton, appeared in 1711, and a second, much improved, in 1743. It was also printed, along with all Ascham's English works, including some of his letters, till then unpublished, in 4to, in 1767, under the care of the Rev. James Bennet. To this edition, which was reprinted in 8vo, in 1815, with the addition of five letters in English addressed to Sir William Cecil, there is prefixed a life of the author by Dr. Johnson.

The facts contained in the above sketch have been principally taken from the Life of Ascham in the Biographia Britannica, which, again, has been for the most part compiled from a Latin oration by Mr. Grant, prefixed to the Letters and Poems.]

tion to yourselves; but you will absolutely make us survive on happy terms with all posterity. Farewell.

"From our own palace, Sept. 1, A.D. 1528.

"*In what order boys, admitted into our Academy, should be taught, and what authors should be lessoned to them.*

"METHOD FOR THE FIRST CLASS.

"In the first place, it has been not improperly resolved that our school be divided into eight Classes. The first of these is to contain the less forward boys; who should be diligently exercised in the eight parts of speech; and whose now flexible accent it should be your chief concern to form; making them repeat the elements assigned them, with the most distinct and delicate pronunciation; since raw material may be wrought to any shape whatever; and according to the hint of Horace,

> 'The odours of the wine that first shall stain
> The virgin vessel, it will long retain;'

on which account it were least proper to deprive this time of life of your due care.

"FOR THE SECOND CLASS.

"Next in order, after pupils of this age have made satisfactory progress in the first rudiments, we would wish them to be called into the second form, to practise speaking Latin, and to render into Latin some English proposition; which should not be without point or pertinence; but should contain some piquant or beautiful

sentiment, sufficiently suitable to the capacity of boys. As soon as this is rendered, it should be set down in Roman characters; and you will daily pay attention that each of the whole party have this note-book perfectly correct, and written as fairly as possible with his own hand.

Should you think proper that, besides the rudiments, some author should be given at this tender age, it may be either Lily's *Carmen Monitorium*, or Cato's Precepts; of course with a view of forming the accent.

"FOR THE THIRD CLASS.

"Of authors, who mainly conduce to form a familiar style, pure, terse, and polished, who is more humorous than Æsop? Who more useful than Terence? Both of whom, from the very nature of their subjects, are not without attraction to the age of youth.

"Furthermore, we should not disapprove of your subjoining, for this form, the little book composed by Lily on the genders of nouns.

"FOR THE FOURTH CLASS.

"Again; when you exercise the soldiership of the fourth class, what general would you rather have than Virgil himself, the prince of all poets? Whose majesty of verse it were worth while should be pronounced with due intonation of voice.

"As well adapted to this form, Lily will furnish the past tenses and supines of verbs. But although I confess such things are necessary, yet, as far as possible,

we could wish them so appointed as not to occupy the more valuable part of the day.

"FOR THE FIFTH CLASS.

"And now at length you wish to know what plan of teaching we should here prescribe. Your wish shall be indulged. One point that we think proper to be noticed, as of first importance, is, that the tender age of youth be never urged with severe blows, or harsh threats, or indeed with any sort of tyranny. For by this injurious treatment all sprightliness of genius either is destroyed, or is at any rate considerably damped.

"With regard to what this form should be taught, your principal concern will be to lesson them in some select epistles of Cicero; as none other seem to us more easy in their style, or more productive of rich copiousness of language.

"FOR THE SIXTH CLASS.

"Moreover, the sixth form seems to require some history, either that of Sallust, or Cæsar's Commentaries. To these might not improperly be added Lily's Syntax; verbs defective and irregular, in short any you may notice, in the course of reading, as departing from the usual form of declination.

"FOR THE SEVENTH CLASS.

"The party in the seventh form should regularly have in hand either Horace's Epistles, or Ovid's Metamorphoses or Fasti: occasionally composing verse or an epistle of their own. It will also be of very great

importance that they sometimes turn verse into prose, or reduce prose into metre. In order that what is learnt by hearing may not be forgotten, the boy should reperuse it with you, or with others. Just before retiring to rest he should study something choice, or worthy of remembrance, to repeat to the master the next morning.

"At intervals, attention should be relaxed, and recreation introduced: but recreation of an elegant nature, worthy of polite literature. Indeed, even with his studies pleasure should be so intimately blended, that a boy may think it rather a *game at learning*, than a task. And caution must be used, lest by immoderate exertion the faculties of learners be overwhelmed, or be fatigued by reading very far prolonged: for either way alike there is a fault.

"FOR THE EIGHTH CLASS.

"Lastly, when by exercise of this kind the party has attained to some proficiency in conversation-style, they should be recalled to the higher precepts of grammar; as, for instance, to the figures prescribed by Donatus, to the elegance of Valla, and to any ancient authors whatever in the Latin tongue. In lessoning from these, we would remind you to endeavour to inform yourselves at least on the points it may be proper should be illustrated on each present occasion. For example, when intending to expound at length a comedy of Terence, you may first discuss in few words the Author's rank in life, his peculiar talent, and elegance of style. You may then remark how great the pleasure and utility in-

volved in reading comedies; of which word you should explain the signification and derivation. Next you may briefly but perspicuously unravel the substance of the plot; and carefully point out the particular kind of verse. You may afterwards arrange the words in more simple order: and wherever there may appear any remarkable elegance; any antiquated, new-modelled, or Grecian phrase; any obscurity of expression; any point of etymology, whether derivation or composition; any order of construction rather harsh and confused; any point of orthography; any figure of speech, uncommon beauty of style, rhetorical ornament, or proverbial expression; in short anything proper or improper for imitation, it should be scrupulously noticed to the young party.

"Moreover, you will pay attention that in play-time the party speak with all possible correctness; sometimes commending the speaker, when a phrase is rather apposite, or improving his expression, when erroneous. Occasionally some pithy subject for a short epistle in their native tongue should be proposed. And, to conclude, you may exhibit, if you please, some formulæ, which serving as a guide, a given theme may conveniently be treated.

"Furnished with these rudiments in our school, boys will easily display the paramount importance of beginning from the best. Do you but now proceed, and enlighten with most honourable studies your well-deserving country."

ROGER ASCHAM'S SCHOOLMASTER.

"THE Schoolmaster" is dedicated by Ascham's widow to Sir William Cecil (afterwards Lord Burleigh), in an address, in which she states, that she is moved to seek his protection for the work, "well remembering," she says, "how much my said husband was many ways bound unto you, and how gladly and comfortably he used in his life to recognise and report your goodness towards him, leaving with me then his poor widow, and a great sort of orphans, a good comfort in the hope of your good continuance, which I have truly found to me and mine." These expressions countenance what has been handed down as to the indifferent circumstances in which Ascham died.

A preface, from the pen of the author, gives an account of the circumstances in which the work originated. On the 10th of December, 1563, while the Queen was at Windsor Castle during the great plague at London, there met at dinner, in Sir William Cecil's chamber, Sir William himself, Sir William Petre, Sir John Mason, Dr. Wotton, Sir Richard Sackville, Sir Walter Mildmay, Mr. Haddon, Mr. John Astley, Mr. Bernard Hampton, Mr. Nicasius (a Greek from Constantinople), and our author. "Mr. Secretary," says Ascham, "hath this accustomed manner; though his head be never so full

of most weighty affairs of the realm, yet at dinner time he doth seem to lay them always aside; and findeth ever fit occasion to talk pleasantly of other matters, but most gladly of some matter of learning, wherein he will courteously hear the mind of the meanest at his table."

The company had not long sat down, when Cecil mentioned what he termed a strange piece of news that had been brought him that morning, that several of the Eton scholars had run away from the school for fear of a beating. He added, that he wished schoolmasters would use more discretion than many of them did in correcting their pupils, punishing, as they often did, "rather the weakness of nature than the fault of the scholar; whereby many scholars, that might else prove well, be driven to hate learning before they know what learning meaneth, and so are made willing to forsake their book, and be glad to be put to any other kind of living."

Some of the company assented to this opinion; others opposed it. Ascham joined those who thought that "children were sooner allured by love, than driven by beating, to attain good learning; wherein," he says, "I was the bolder to say my mind, because Mr. Secretary courteously provoked me thereunto; or else in such a company, and namely in his presence, my wont is to be more willing to use mine ears than to occupy my tongue."

Mr. Wotton, "a man of mild nature, with soft voice, and few words," inclined to the same sentiments. "Mr. Mason, after his manner, was very merry with both parties.... Sir Walter Mildmay, Mr. Astley, and the rest said very little; only Sir Richard Sackville said nothing at all."

"After dinner," continues Ascham, "I went up to

read with the Queen's Majesty: we read there together in the Greek tongue, as I well remember, that noble oration of Demosthenes against Æschines, for his false dealing in his embassage to King Philip of Macedony." Sir Richard Sackville, who was treasurer of the Exchequer to Queen Elizabeth, came up soon after, and finding our author in her Majesty's privy chamber, took him by the hand, and led him to a window, where he recurred to the subject they had been discussing, by saying, that he would not for a good deal of money have been absent from the dinner, "where," he added, "though I said nothing, yet I gave as good ear, and do consider as well the talk that passed as any one did there." He then warmly expressed his agreement with what Cecil and Ascham had advanced, instancing what had happened to himself, whom, he said, a foolish schoolmaster, before he was fourteen years old, had so driven with fear of beating from all love of learning, that now, when he knew the difference between having learning and having little, or none at all, he felt it his greatest grief, and found it his greatest hurt, that he had ever fallen into such hands. He then expressed his anxiety that his grandson, Robert Sackville, should for his mishap fare the better, and added, "I hear say you have a son much of his age; we will deal thus together: point you out a schoolmaster, who by your order shall teach my son and yours, and for all the rest I will provide, yea though they three do cost me a couple of hundred pounds by year; and beside, you shall find me as fast a friend to you and yours as perchance any you have."

"This promise," Ascham says, "the worthy gentleman surely kept with me until his dying day." They then had some further talk together on the right method of

educating children, which ended in Sackville requesting that our author would put down in writing the chief points of their conversation. The latter attempted to excuse himself from this task "by lack of ability and weakness of body;" but Sir Richard persisted in urging its performance. "I beginning some further excuse," continues Ascham, "suddenly was called to come to the Queen. The night following I slept little, my head was so full of this our former talk, and I so mindful somewhat to satisfy the honest request of so dear a friend. I thought to prepare some little treatise for a New-year's Gift that Christmas; but, as it chanceth to busy builders, so, in building this my poor school-house (the rather because the form of it is somewhat new, and differing from others), the work rose daily higher and wider than I thought it would at the beginning. And though it appear now, and be in very deed but a small cottage, poor for the stuff, and rude for the workmanship, yet in going forward I found the site so good, as I was loth to give it over; but the making so costly outreaching my ability, as many times I wished that some one of those three, my dear friends, with full purses, Sir Thomas Smith, Mr. Haddon, or Mr. Watson, had had the doing of it. Yet, nevertheless, I myself spending gladly that little that I gat at home by good Sir John Cheke, and that I borrowed abroad of my friend Sturmius, beside somewhat that was left me in reversion by my old masters, Plato, Aristotle, and Cicero, I have at last patched it up, as I could, and as you see. If the matter be mean, and meanly handled, I pray you bear both with me and it; for never work went up in worse weather, with more lets and stops, than this poor school-house of mine. Westminster-Hall can bear some witness, beside much

weakness of body, but more trouble of mind, by some such sores as grieve me to touch them myself; and therefore I purpose not to open them to others."

What is said about Westminster-Hall here is in allusion to a lawsuit in which Ascham was then, or had lately been involved. To add to all his troubles came the death of Sir Richard Sackville. "When he was gone," continues the author, "my heart was dead; there was not one that wore a black gown for him who carried a heavier heart for him than I; when he was gone, I cast this book away; I could not look upon it but with weeping eyes, in remembering him who was the only setter on to do it, and would have been not only a glad commender of it, but also a sure and certain comfort to me and mine." Almost two years together, he says, the book lay scattered and neglected, and would have been quite given over by him, if the goodness of one (he no doubt means Cecil) had not given him some life and spirit again. "God," he continues, "the mover of goodness, prosper always him and his, as he hath many times comforted me and mine, and, as I trust to God, shall comfort more and more. Of whom most justly I may say, and very oft and always gladly I am wont to say, that sweet verse of Sophocles, spoken by Œdipus to worthy Theseus:

Ἔχω γὰρ ἃ ἔχω διὰ σέ, κοὐκ ἄλλον βροτῶν.*

This hope hath helped me to end this book; which, if he allow, I shall think my labours well employed, and shall not much esteem the misliking of any others."

In writing the book, he states, he has had earnest respect to three special points—truth of religion, honesty

* For whatsoever I have I have through thee, and through none other of living men.

of living, and right order in learning. "In which three ways," he concludes, "I pray God my poor children may diligently walk; for whose sake, as nature moved and reason required, and necessity also somewhat compelled, I was the willinger to take these pains.

"For, seeing at my death I am not like to leave them any great store of living, therefore, in my lifetime, I thought good to bequeath unto them, in this little book, as in my will and testament, the right way to good learning; which if they follow, with the fear of God, they shall very well come to sufficiency of living.

"I wish also, with all my heart, that young Mr. Robert Sackville may take that fruit of this labour, that his worthy grandfather purposed he should have done; and if any other do take either profit or pleasure hereby, they have cause to thank Mr. Robert Sackville, for whom specially this my Schoolmaster was provided.

"And one thing I would have the reader consider, in reading this book, that because no schoolmaster hath charge of any child before he enter into his school, therefore I, leaving all former care of their good bringing up to wise and good parents, as a matter not belonging to the schoolmaster, I do appoint this my Schoolmaster then and there to begin where his office and charge beginneth. Which charge lasteth not long, but until the scholar be made able to go to the University, to proceed in logic, rhetoric, and other kind of learning.

"Yet if my Schoolmaster, for love he beareth to his scholar, shall teach him somewhat for his furtherance and better judgment in learning, that may serve him seven years after in the University, he doth his scholar no more wrong, nor deserveth no worse name thereby, than he doth in London, who, selling silk or cloth unto his

friend, doth give him better measure than either his promise or bargain was. Farewell in Christ."

Book I.

The title of the first book of the Schoolmaster describes it as "Teaching the bringing up of Youth;" and it may be said to treat of the general principles according to which the education of children at school ought to be conducted. Much of it has, however, a particular reference to what was then, as it is still, the usual commencement of a liberal education, the study of the Latin tongue.

The author begins by condemning the method pursued in common schools for "the making of Latins," that is, the mode of teaching the writing of Latin by means of books of exercises of the ordinary fashion. He says: "After the child hath learned perfectly the eight parts of speech, let him then learn the right joining together of substantives with adjectives, the noun with the verb, the relative with the antecedent. And in learning farther his syntaxis, by mine advice he shall not use the common order in common schools for making of Latins, whereby the child commonly learneth, first, an evil choice of words (and 'right choice of words,' saith Cæsar, 'is the foundation of eloquence,') then a wrong placing of words, and, lastly, an ill framing of the sentence, with a perverse judgment both of words and sentences. These faults, taking once root in youth, be never, or hardly plucked away in age. Moreover, there is no one thing that hath more either dulled the wits or taken away the will of children from learning, than the care they have to satisfy their masters in making of Latins.

"For the scholar is commonly beat for the making, when the master were more worthy to be beat for the mending, or rather marring of the same, the master many times being as ignorant as the child what to say properly and fitly to the matter.

"Two schoolmasters have set forth in print, either of them, a book of such kind of Latins, Horman and Whittington. A child shall learn of the better of them that which, another day, if he be wise and come to judgment, he must be fain to unlearn again.

"There is a way touched in the first book of Cicero de Oratore, which wisely brought into schools, truly taught, and constantly used, would not only take wholly away this butcherly fear in making of Latins, but would also with ease and pleasure, and in short time, as I know by good experience, work a true choice and placing of words, a right ordering of sentences, an easy understanding of the tongue, a readiness to speak, a facility to write, a true judgment both of his own and other men's doings, what tongue soever he doth use.

"The way is this: After the three concordances learned, as I touched before, let the master read unto him the Epistles of Cicero, gathered together and chosen out by Sturmius for the capacity of children.

"First, let him teach the child cheerfully and plainly the cause and matter of the Letter; then let him construe it into English, so oft as the child may easily carry away the understanding of it; lastly, parse it over perfectly. This done thus, let the child, by and by, both construe and parse it over again; so that it may appear that the child doubteth in nothing that his master taught him before. After this, the child must take a paper book, and sitting in some place where no man shall prompt

him, by himself, let him translate into English his former lesson. Then, showing it to his master, let the master take from him his Latin book, and pausing an hour at least, then let the child translate his own English into Latin again in another paper book. When the child bringeth it turned into Latin, the master must compare it with Tully's book, and lay them both together; and where the child doth well, either in choosing or true placing Tully's words, let the master praise him, and say, 'Here you do well;' for I assure you there is no such whetstone to sharpen a good wit, and encourage a will to learning, as is praise.

"But if the child miss, either in forgetting a word, or in changing a good with a worse, or misordering the sentence, I would not have the master either frown, or chide with him, if the child hath done his diligence and used no truantship therein; for I know by good experience, that a child shall take more profit of two faults gently warned of, than of four things rightly hit; for then the master shall have good occasion to say unto him, 'Tully would have used such a word, not this; Tully would have placed this word here, not there; would have used this case, this number, this person, this degree, this gender; he would have used this mood, this tense, this simple rather than this compound; this adverb here, not there; he would have ended the sentence with this verb, not with that noun or participle,' &c.

"In these few lines I have wrapped up the most tedious part of grammar, and also the ground of almost all the rules that are so busily taught by the master, and so hardly learned by the scholar in all common schools, which after this sort the master shall teach without all error, and the scholar shall learn without great pain;

the master being led by so sure a guide, and the scholar being brought into so plain and easy a way. And therefore we do not contemn rules, but we gladly teach rules, and teach them more plainly, sensibly, and orderly than they be commonly taught in common schools. For when the master shall compare Tully's book with the scholar's translation, let the master at the first lead and teach his scholar to join the rules of his grammar book with the examples of his present lesson, until the scholar by himself be able to fetch out of his grammar every rule for every example, so as the grammar book be ever in the scholar's hand, and also used of him as a dictionary for every present use. This is a lively and perfect way of teaching of rules; where the common way used in common schools, to read the grammar alone by itself, is tedious for the master, hard for the scholar, cold and uncomfortable for them both.

"Let your scholar be never afraid to ask you any doubt, but use discreetly the best allurements you can to encourage him to the same, lest his overmuch fearing of you drive him to seek some misorderly shift, as to seek to be helped by some other book, or to be prompted by some other scholar, and so go about to beguile you much, and himself more.

"With this way of good understanding the matter, plain construing, diligent parsing, daily translating, cheerful admonishing, and heedful amending of faults, never leaving behind just praise for well doing, I would have the scholar brought up withal, till he had read and translated over the first book of Epistles chosen out by Sturmius, with a good piece of a comedy of Terence also.

"All this while, by mine advice, the child shall use to speak no Latin; for, as Cicero saith in like matter,

with like words, *Loquendo, malè loqui discunt;* and that excellent learned man G. Budæus, in his Greek commentaries, sore complaineth, that when he began to learn the Latin tongue, use of speaking Latin at the table and elsewhere unadvisedly did bring him to such an evil choice of words, to such a crooked framing of sentences, that no one thing did hurt or hinder him more all the days of his life afterward, both for readiness in speaking, and also good judgment in writing."

Upon the subject of speaking Latin, the author admits that if children could be brought up in a house or a school in which the Latin tongue was properly and perfectly spoken, then the daily use of speaking would be the best and readiest way to learn the language. But in the best schools in England he contends that no such constant propriety of expression was to be heard. If the object therefore be that the scholar shall learn not only to speak Latin, but to speak it well, our author's opinion is that he will best acquire this faculty by use of writing.

After some time when the scholar is found to perform this first kind of exercise with increasing ease and correctness, he must have longer lessons to translate, and must also be introduced to the second stage in the order of teaching; that is to say, he is to be taught to know and distinguish, both in nouns and verbs, what is *proprium* (literal), and what is *translatum* (metaphorical); what *synonymum* (synonymous), what *diversum* (differing in signification in certain respects); which words are *contraria* (opposite in signification to each other), and which are the most remarkable phrases or idiomatic expressions, throughout the whole passage which forms his lesson. For this purpose he must have a third paper book; in which after he has done his double translation

he must write out and arrange what is to be found in the lesson under each of these heads. Should the passage contain nothing under certain of them, he ought still to enter the head or title: thus, *diversa nulla* (no words differing in signification); *contraria nulla* (no words of opposite signification), &c.

"This diligent translating," says the author, "joined with this heedful marking in the foresaid Epistles, and afterward in some plain Oration of Tully, as *Pro Lege Manilia*, *Pro Archia Poëta*, or in those three *Ad C. Cæsarem*, (he means those three commonly entitled Pro Q. Ligario, Pro Rege Dejotaro, and Pro M. Marcello) shall work such a right choice of words, so strait a framing of sentences, such a true judgment, both to write skilfully and speak wittily, as wise men shall both praise and marvel at."

He then proceeds to the proper subject of this portion of his work, the general manner and temper in which the instruction of youth ought to be conducted:—

"If your scholar do miss sometimes, in marking rightly these foresaid six things, chide not hastily; for that shall both dull his wit, and discourage his diligence: but monish him gently, which shall make him both willing to amend, and glad to go forward in love, and hope of learning.

"I have now wished twice or thrice this gentle nature to be in a schoolmaster. And that I have done so, neither by chance nor without some reason, I will now declare at large why in mine opinion love is fitter than fear, gentleness better than beating, to bring up a child rightly in learning.

"With the common use of teaching, and beating in common schools of England, I will not greatly contend; which if I did, it were but a small grammatical contro-

verey, neither belonging to heresy nor treason, nor greatly touching God nor the prince; although in very deed, in the end, the good or ill bringing up of children, doth as much serve to the good or ill service of God, our Prince, and our whole country, as any one thing doth beside.

"I do gladly agree with all good schoolmasters in these points; to have children brought to good perfectness in learning, to all honesty in manners; to have all faults rightly amended; to have every vice severely corrected. But for the order and way that leadeth rightly to these points, we somewhat differ; for commonly many schoolmasters, some as I have seen, more as I have heard tell, be of so crooked a nature, as when they meet with a hard-witted scholar, they rather break him than bow him, rather mar him than mend him. For when the schoolmaster is angry with some other matter, then will he soonest fall to beat his scholar; and though he himself should be punished for his folly, yet must he beat some scholar for his pleasure, though there be no cause for him to do so, nor yet fault in the scholar to deserve so.

"These, ye will say, be fond schoolmasters, and few they be, that be found to be such. They be fond, indeed, but surely over many such be found every where. But this will I say, that even the wisest of your great beaters do as oft punish nature, as they do correct faults. Yea, many times the better nature is sorer punished. For, if one by quickness of wit take his lesson readily, another by hardness of wit taketh it not so speedily; the first is always commended; the other is commonly punished: when a wise schoolmaster should rather discreetly consider the right disposition of both their natures, and not

so much weigh what either of them is able to do now, as what either of them is likely to do hereafter. For this I know, not only by reading of books in my study, but also by experience of life abroad in the world, that those which be commonly the wisest, the best learned, and best men also, when they be old, were never commonly the quickest of wit when they were young. The causes why, amongst other, which be many, that move me thus to think, be these few which I will reckon.

"Quick wits commonly be apt to take, unapt to keep; soon hot, and desirous of this and that; as soon cold, and weary of the same again; more quick to enter speedily, than able to pierce far; even like our sharp tools, whose edges be very soon turned. Such wits delight themselves in easy and pleasant studies, and never pass far forward in high and hard sciences. And therefore the quickest wits commonly may prove the best poets, but not the wisest orators: ready of tongue to speak boldly, not deep of judgment, either for good counsel, or wise writing. Also for manners and life, quick wits commonly be, in desire, new-fangled; in purpose, unconstant, light to promise anything, ready to forget everything, both benefit and injury; and thereby neither fast to friend, nor fearful to foe; inquisitive of every trifle, not secret in the greatest affairs; bold with any person; busy in every matter; soothing such as be present, nipping any that is absent: of nature also always flattering their betters, envying their equals, despising their inferiors; and by quickness of wit, very quick and ready to like none so well as themselves.

"Moreover, commonly, men very quick of wit be also very light of conditions; and thereby very ready of disposition to be carried over quickly by any light company to any riot and unthriftiness when they be young;

and therefore seldom either honest of life, or rich in living when they be old. For quick in wit, and light in manners, be either seldom troubled, or very soon weary in carrying a very heavy purse. Quick wits also be in most part of all their doings over quick, hasty, rash, heady, and brainsick. These two last words, *heady* and *brainsick*, be fit and proper words, rising naturally of the matter, and termed aptly by the condition of overmuch quickness of wit. In youth also they be ready scoffers, privy mockers, and ever over light and merry: in age, soon testy, very waspish, and always over miserable. And yet few of them come to any great age, by reason of their misordered life when they were young; but a great deal fewer of them come to show any great countenance, or bear any great authority abroad in the world; but either live obscurely, men know not how, or die obscurely, men mark not when.

"They be like trees, that show forth fair blossom and broad leaves in spring time, but bring out small and not long-lasting fruit in harvest time; and that only such as fall and rot before they be ripe, and so never or seldom come to any good at all. For this you shall find most true by experience, that amongst a number of quick wits in youth, few be found in the end either very fortunate for themselves, or very profitable to serve the commonwealth, but decay and vanish, men know not which way; except a very few, to whom peradventure blood and happy parentage may perchance purchase a long standing upon the stage. The which felicity, because it cometh by others' procuring, not by their own deserving, and stands by other men's feet, and not by their own, what outward brag soever is borne by them, is indeed of itself, and in wise men's eyes, of no great estimation."

The author here gives it as his opinion, that there are certain sciences by the over-much study and use of which "some wits, moderate enough by nature, be many times marred." The sciences against which he thus warns moderate wits are music (in which he is said to have been himself a proficient), arithmetic, and geometry. "These sciences," he says, "as they sharpen men's wits overmuch, so they change men's manners over sore, if they be not moderately mingled, and wisely applied to some good use of life. Mark all mathematical heads, which be only and wholly bent to those sciences, how solitary they be themselves, how unfit to live with others, and how unapt to serve in the world." In support of this notion he quotes Galen, Plato, and Cicero, as all condemning much music, on the ground that it "marreth men's manners;" and he refers to what he had himself written more at large on the matter, twenty years ago, in his BOOK OF SHOOTING. The passage in the Toxophilus is curious as giving the grounds on which Ascham appears to have taken up these opinions. He there observes that "lutes, harps, barbitons, sambukes, with other instruments, every one which standeth by fine and quick fingering, be condemned of Aristotle, as not to be brought in and used among them which study for learning and virtue." Music, he thinks, doth to a man's mind, "as honey doth to a man's stomach, which at the first receiveth it well, but afterward it maketh it unfit to abide any strong nourishing meat, or else any wholesome, sharp, and quick drink. And even so in a manner these instruments make a man's wit so soft and smooth, so tender and quaisy, that they be less able to brook strong and tough study. Wits be not sharpened, but rather dulled,

and made blunt with such sweet softness, even as good edges be blunted, which men whet upon soft chalk stones."

In the present work he contends, generally, that "overmuch quickness of wit, either given by nature, or sharpened by study, doth not commonly bring forth either greatest learning, best manners, or happiest life in the end." The sense in which he makes this proposition, as well as the reasons by which he defends it, will be understood from the passage that follows:—

"Contrarywise, a wit in youth that is not over dull, heavy, knotty, and lumpish; but hard, tough, and though somewhat staffish, (as Tully wisheth *otium quietum non languidum*, and *negotium cum labore, non cum periculo*,)* such a wit, I say, if it be at the first well handled by the mother, and rightly smoothed and wrought as it should, not overthwartly and against the wood by the schoolmaster, both for learning and whole course of living, proveth always the best. In wood and stone, not the softest, but hardest, be always aptest for portraiture, both fairest for pleasure, and most durable for profit. Hard wits be hard to receive, but sure to keep; painful without weariness, heedful without wavering, constant without newfangleness; bearing heavy things, though not lightly, yet willingly; entering hard things, though not easily, yet deeply; and so come to that perfectness of learning in the end, that quick wits seem in hope, but do not in deed, or else very seldom, ever attain unto.

"Also for manners and life, hard wits commonly are hardly carried, either to desire every new thing, or else

* *i. e.* leisure which is quiet, but not languid; and business attended with exertion, but not with danger.

to marvel at every strange thing. And therefore they be careful and diligent in their own matters, not curious and busy in other men's affairs; and so they become wise themselves, and also are counted honest by others. They be grave, steadfast, silent of tongue, secret of heart; not hasty in making, but constant in keeping any promise; not rash in uttering, but wary in considering every matter; and thereby not quick in speaking, but deep of judgment, whether they write or give counsel in all weighty affairs. And these be the men that become in the end both most happy for themselves, and also always best esteemed abroad in the world.

"I have been longer in describing the nature, the good or ill success of the quick and hard wits, than perchance some will think this place and matter doth require. But my purpose was hereby plainly to utter what injury is offered to all learning, and to the commonwealth also, first by the fond father in choosing, but chiefly by the lewd* schoolmaster in beating and driving away the best natures from learning. A child that is still, silent, constant, and somewhat hard of wit, is either never chosen by the father to be made a scholar, or else when he cometh to the school, he is smally regarded, little looked unto; he lacketh teaching, he lacketh encouraging, he lacketh all things; only he never lacketh beating, nor any word that may move him to hate learning, nor any deed that may drive him from learning to any other kind of living.

"And when this sad-natured, and hard-witted child is beat from his book, and becometh after either student of the common law, or page in the court, or serving-man, or bound prentice to a merchant, or to some han-

* *i. e.* the intemperate.

dicraft, he proveth in the end wiser, happier, and many times honester too, than many of these quick wits do by their learning.

"Learning is both hindered and injured too by the ill choice of them that send young scholars to the Universities, of whom must needs come all our divines, lawyers, and physicians.

"These young scholars be chosen commonly, as young apples be chosen by children in a fair garden, about St. James tide. A child will choose a sweeting, because it is presently fair and pleasant, and refuse a runnet, because it is then green, hard, and sour; when the one, if it be eaten, doth breed both worms and ill humours; the other, if it stand his time, be ordered and kept as it should, is wholesome of itself, and helpeth to the good digestion of other meats. Sweetings will receive worms, rot, and die on the tree, and never or seldom come to the gathering for good and lasting store.

"For very grief of heart I will not apply the similitude; but hereby is plainly seen, how learning is robbed of the best wits, first, by the great beating, and after by the ill choosing of scholars to go to the Universities: whereof cometh partly that lewd and spiteful proverb, sounding to the great hurt of learning, and shame of learned men, that 'the greatest clerks be not the wisest men.'

"And though I, in all this discourse, seem plainly to prefer hard and rough wits, before quick and light wits, both for learning and manners; yet I am not ignorant that some quickness of wit is a singular gift of God, and so most rare among men: and, namely, such a wit as is quick without lightness, sharp without brittleness,

desirous of good things without newfangleness, diligent in painful things without wearisomeness, and constant in good will to do all things well; as I know was in Sir John Cheke, and is in some that yet live, in whom all these fair qualities of wit are fully met together.

"But it is notable and true, that Socrates saith in Plato to his friend Phædo, 'That that number of men is fewest, which far exceed, either in good or ill, in wisdom or folly; but the mean betwixt both be the greatest number.' Which he proveth true in divers other things; as in greyhounds, amongst which few are found exceeding great, or exceeding little, exceeding swift, or exceeding slow. And, therefore, speaking of quick and hard wits, I meant the common number of quick and hard wits; amongst the which, for the most part, the hard wit proveth many times the better learned, wiser, and honester man. And therefore do I the more lament that such wits commonly be either kept from learning by fond fathers, or beat from learning by lewd schoolmasters."

The author proceeds to say that he might here declare "the most special notes of a good wit for learning in a child, after the manner and custom of a good horseman, who is skilful to know, and able to tell others, how by certain sure signs a man may choose a colt that is like to prove another day excellent for the saddle." "And it is a pity," he adds, with keen and indignant sarcasm, "that commonly more care is had, yea and that among very wise men, to find out rather a cunning man for their horse, than a cunning man for their children. They say nay in a word, but they do so in deed; for to the one they will gladly give a stipend of two hundred crowns by the year, and loth to offer to the other two

hundred shillings. God that sitteth in heaven laugheth their choice to scorn, and rewardeth their liberality as it should. For he suffereth them to have tame and well-ordered horses, but wild and unfortunate children; and therefore in the end they find more pleasure in their horses, than comfort in their children."

Instead, however, of giving his own opinion as to the true marks of promise in a child, he prefers reporting "the judgment of him that was counted the best teacher and wisest man that learning maketh mention of," namely, Socrates, as his words are recorded by Plato, in the seventh book of his Republic. From what Socrates says, he extracts "seven true notes of a good wit," which he explains in succession.

First, the child must be Εὐφυής, that is, "apt by goodness of wit, and appliable by readiness of will, to learning, having all other qualities of the mind and parts of the body, that must another day serve learning." Among such qualifications, Ascham lays great stress upon a comely countenance and a goodly stature; and he laments that fathers, when out of several sons they have one that is lame or deformed, are too apt to put that one to learning, "as good enough to become a scholar." He hints that the civil magistrate ought to interfere to prevent this abuse.

Secondly, the child ought to be Μνήμων, which he interprets "good of memory." This he says is "so principal a note, as without it all other gifts of nature do small service to learning." "And though," he adds, "it be the mere gift of nature, yet is memory well preserved by use, and much increased by order, as our scholar must learn another day in the University. But in a child a good memory is well known by three properties;

that is, if it be quick in receiving, sure in keeping, and ready in delivering forth again."

The third note is that he be Φιλομαθής, that is, "given to love learning, for though a child have all the gifts of nature at wish, and perfection of memory at will, yet if he have not a special love to learning he shall never attain to much learning." "Isocrates," he adds, "did cause to be written at the entry of his school in golden letters this golden sentence, Ἐὰν ᾖς Φιλομαθής, ἔσῃ πολυμαθής: which excellently said in Greek, is thus rudely in English: "If thou love learning, thou shalt attain to much learning."

Fourthly, the child should be Φιλόπονος, that is, should have "a lust to labour, and a will to take pains; for if a child have all the benefits of nature, with perfection of memory, love, like, and praise learning never so much; yet if he be not of himself painful, he shall never attain unto it. And yet where love is present, labour is seldom absent, and namely in study of learning, and matter of the mind."

Fifthly, he must be Φιλήκοος, that is, "glad to hear and learn of another; for otherwise he shall stick with great trouble, where he might go easily forward; and also catch hardly a very little by his own toil, when he might gather quickly a good deal by another man's teaching."

The sixth mark is that he be Ζητητικός, that is, "naturally bold to ask any question, desirous to search out any doubt; not ashamed to learn of the meanest, nor afraid to go to the greatest, until he be perfectly taught and fully satisfied."

Lastly the author (employing, however, a word which is not in Plato) enumerates as one of the charac-

teristics demanded in the child by Socrates, that he be φιλήπαινος, that is, one "that loveth to be praised for well doing at his father or master's hand."

"And thus," he concludes, "by Socrates' judgment, a good father and a wise schoolmaster should choose a child to make a scholar of, that hath by nature the foresaid perfect qualities and comely furniture both of mind and body; hath memory quick to receive, sure to keep, and ready to deliver; hath love to learning; hath lust to labour; hath desire to learn of others; hath boldness to ask any question; hath mind wholly bent to win praise by well doing. The two first of these qualities he considers to be special benefits of nature, yet to be preserved and much increased by discipline. The five last are to be wholly won and maintained by the wisdom and discretion of the schoolmaster. "Which five points," he proceeds, "whether a schoolmaster shall work sooner in a child by fearful beating, or courteous handling, you that be wise, judge.

Yet some men, wise indeed, but, in this matter, more by severity of nature than any wisdom at all, do laugh at us when we thus wish and reason, that young children should rather be allured to learning by gentleness and love, than compelled to learning by beating and fear. They say, "our reasons serve only to breed forth talk, and pass away the time; but we never saw good schoolmasters do so, nor never read of wise men that thought so."

In opposition to this doctrine, Ascham quotes from Plato the precept of Socrates, that no learning ought to be learnt with bondage. "And why?" he adds of himself, "For whatsoever the mind doth learn unwillingly with fear, the same it doth gladly forget without care."

He goes on to show that it is expressly of the teaching of children that Socrates in the passage quoted speaks. He then proceeds as follows:—"Fond schoolmasters neither can understand, nor will follow this good counsel of Socrates; but wise riders in their office can, and will, do both; which is the only cause that commonly the young gentlemen of England go so unwillingly to school, and run so fast to the stable. For in very deed, fond schoolmasters by fear do beat into them the hatred for learning; and wise riders, by gentle allurements, do breed up in them the love of riding. They find fear and bondage in schools, they feel liberty and freedom in stables; which causes them utterly to abhor the one, and most gladly to haunt the other. And I do not write this, that in exhorting to the one, I would dissuade young gentlemen from the other: yea I am sorry with all my heart that they be given no more to riding than they be. For of all outward qualities, to ride fair is most comely for himself, most necessary for his country; and the greater he is in blood, the greater is his praise, the more he doth exceed all other therein. It was one of the three excellent praises amongst the noble gentlemen, the old Persians: 'Always to say truth, to ride fair, and shoot well;' and so it was engraven upon Darius' tomb, as Strabo witnesseth:—

> Darius the king lieth buried here,
> Who in riding and shooting had never peer."

He next takes up an objection which may be brought against his argument: "Yet some will say that children of nature love pastime, and mislike learning, because in their kind the one is easy and pleasant, the other hard and wearisome. Which is an opinion not so true as some men ween. For the matter lieth not so much

in the disposition of them that be young, as in the order and manner of bringing up by them that be old; nor yet in the difference of learning and pastime. For beat a child if he dance not well, and cherish him though he learn not well, ye shall have him unwilling to go to dance, and glad to go to his book; knock him always when he draweth his shaft ill, and favour him again though he fault at his book, ye shall have him very loth to be in the field, and very willing to go to school. Yea, I say more, and not of myself, but by the judgment of those, from whom few wise men will gladly dissent,—that if ever the nature of man be given at any time, more than other, to receive goodness, it is in innocency of young years, before that experience of evil have taken root in him. For the pure clean wit of a sweet young babe is like the newest wax, most able to receive the best and fairest printing; and like a new bright silver dish never occupied, to receive and keep clean any good thing that is put into it."

Some further illustration follows of the facility with which impressions, whether good or evil, may be made upon the youthful mind; and then comes a passage too interesting not to be given in full:—

"And one example, whether love or fear doth work more in a child for virtue and learning, I will gladly report, which may be heard with some pleasure, and followed with more profit.

"Before I went into Germany, I came to Brodegate in Leicestershire, to take my leave of that noble Lady Jane Grey, to whom I was exceeding much beholden. Her parents, the Duke and Duchess, with all the household, gentlemen and gentlewomen, were hunting in the park. I found her in her chamber reading 'Phædo

Platonis,' in Greek, and that with as much delight as some gentlemen would read a merry tale in Boccace. After salutation and duty done, with some other talk, I asked her why she would lose such pastime in the park? Smiling, she answered me: 'I wist, all their sport in the park is but a shadow to that pleasure that I find in Plato. Alas! good folk, they never felt what true pleasure meant.' 'And how came you, Madam,' quoth I, 'to this deep knowledge of pleasure? And what did chiefly allure you unto it, seeing not many women, but very few men, have attained thereunto?' 'I will tell you,' quoth she, 'and tell you a truth which perchance ye will marvel at. One of the greatest benefits that ever God gave me, is that he sent me so sharp and severe parents, and so gentle a schoolmaster. For when I am in presence either of father or mother, whether I speak, keep silence, sit, stand, or go, eat, drink, be merry, or sad, be sewing, playing, dancing, or doing any thing else, I must do it, as it were, in such weight, measure, and number, even so perfectly, as God made the world; or else I am so sharply taunted, so cruelly threatened, yea presently sometimes with pinches, nips, and bobs, and other ways (which I will not name for the honour I bear them) so without measure misordered, that I think myself in hell, till time come that I must go to Mr. Elmer, who teacheth me so gently, so pleasantly, with such fair allurements to learning, that I think all the time nothing while I am with him. And when I am called from him, I fall on weeping, because whatsoever I do else, but learning, is full of grief, trouble, fear, and whole misliking unto me. And thus my book hath been so much my pleasure, and bringeth daily to me more pleasure and more, that in respect of it all

other pleasures in very deed be but trifles and troubles unto me.'

"I remember this talk gladly, both because it is so worthy of memory, and because also it was the last talk that ever I had, and the last time that ever I saw that noble and worthy lady."

For a perfect discussion of this part of his subject, Ascham refers the reader to the treatise 'De Institutione Principis,' (On the Education of a Prince,) addressed by his friend John Sturmius to the Duke of Cleves. Although, however, he is for the use of gentleness rather than severity in the instruction of youth at school, he does not dispute the necessity of sharp chastisement by parents for correcting vicious habits in their children. "This discipline," he says, "was well known and diligently used among the Grecians and old Romans; as doth appear in Aristophanes, Isocrates, and Plato, and also in the comedies of Plautus; where we see that children were under the rule of three persons, a schoolmaster, governor, and father. The schoolmaster taught him learning with all gentleness; the governor corrected his manners with much sharpness; the father held the stern of his whole obedience. And so he that used to teach did not commonly use to beat, but remitted that over to another man's charge. But what shall we say, when now in our days the schoolmaster is used both for preceptor in learning, and pædagogus in manners? Surely, I would he should not confound their offices, but discreetly use the duty of both, so that neither ill touches should be left unpunished, nor gentleness in teaching anywise omitted. And he shall well do both, if wisely he do appoint diversity of time, and separate place, for either purpose; using always such

discreet moderation, as 'the school-house should be counted a sanctuary against fear; and very well learning a common pardon for ill doing, if the fault of itself be not over heinous.'"

The author considers the second great fault of English education in his time to be the licence that was allowed to young men after leaving school. He contrasts with the prevailing manners, the more strict discipline of wise antiquity, when, for instance, "no son, were he never so old in years, never so great in birth, though he were a king's son, might marry but by his father's and mother's consent." Having quoted to this effect the examples of Cyrus and Sampson, he exclaims: "Doth this modesty, doth this obedience that was in great King Cyrus, and strong Sampson, remain in our young men at this day? No surely, for we live not longer after them by time, than we live far different from them by good order. Our time is so far from that old discipline and obedience, as now not only young gentlemen, but even very girls, dare without all fear, though not without open shame, where they list, and how they list, marry themselves in spite of father, mother, God, good order, and all." This evil, he says, is peculiar to the children of the rich and great, as they deserve it should be. From seven to seventeen, young gentlemen are carefully enough brought up; but from seventeen to seven-and-twenty, (which Xenophon calls the most dangerous time of all man's life, and most slippery to stay well in,) "they have commonly the rein of all licence in their own hand, and specially such as do live in the court." "And that," he adds, "which is most to be marvelled at, commonly the wisest, and also best men, be found the fondest

fathers in this behalf. And if some good father will seek some remedy herein, yet the mother (if the house hold of our lady) had rather, yea, and will have her son cunning and bold, in making him to live trimly, when he is young, than by learning and travel to be able to serve his prince and his country, both wisely in peace, and stoutly in war, when he is old.

"The fault is in yourselves, ye noblemen's sons, and therefore ye deserve the greater blame, that commonly the meaner men's children come to be the wisest counsellors, and greatest doers in the weighty affairs of this realm. And why? for God will have it so of his providence, because you will have it no otherwise by your negligence.

"And God is a good God, and wisest in all his doings, that will place virtue, and displace vice in those kingdoms where he doth govern. 'For he knoweth that nobility, without virtue and wisdom, is blood indeed, but blood truly without bones and sinews; and so of itself, without the other, very weak to bear the burthen of weighty affairs.'

"The greatest ship indeed commonly carrieth the greatest burthen, but yet always with the greatest jeopardy, not only for the persons and goods committed unto it, but even for the ship itself, except it be governed with the greater wisdom.

"But Nobility, governed by learning and wisdom, is indeed most like a fair ship, having tide and wind at will, under the rule of a skilful master; when contrariwise, a ship carried, yea with the highest tide and greatest wind, lacking a skilful master, most commonly doth either sink itself upon sands, or break itself upon rocks. And even so, how many have been either drowned in vain pleasure, or overwhelmed by stout wil-

fulness, the histories of England be able to afford over many examples unto us. Therefore, ye great and noblemen's children, if ye will have rightly that praise, and enjoy surely that place, which your fathers have, and elders had, and left unto you, ye must keep it, as they gat it; and that is, by the only way of virtue, wisdom, and worthiness."

In some passages that follow, the manners of the court, and the habits of thinking and judging that prevailed there, are very severely reprobated. There were then, indeed, the author allows, many fair examples in the English court for young gentlemen to follow; "but they be," he says, "like fair marks in the field, out of a man's reach, too far off to shoot at well." Young gentlemen who come to court are commonly obliged to associate with the worst description of characters there. These are they who laugh at quietness of nature as simpleness and lack of wit, and at bashful and blushing modesty as babyishness and ill-breeding. What is learned from their company is, first, to blush at nothing; "then followeth to dare do any mischief; to contemn stoutly any goodness; to be busy in every matter; to be skilful in every thing; to acknowledge no ignorance at all." "Moreover," he continues, "where the swing goeth, there to follow, fawn, flatter, laugh, and lie lustily at other men's liking; to face, stand foremost, shove back; and to the meaner man, or unknown in the court, to seem somewhat solemn, coy, big, and dangerous of look, talk, and answer; to think well of himself, to be lusty in contemning of others, to have some trim grace in a privy mock: and, in greater presence, to bear a brave look; to be warlike, though he never looked enemy in the face in war; yet some warlike sign must be used,

either a slovenly buskin, or an over-staring frounced head, as though out of every hair's top should suddenly start out a good big oath when need requireth. Yet, praised be God! England hath at this time many worthy captains and good soldiers, which be indeed so honest of behaviour, so comely of conditions, so mild of manners, as they may be examples of good order to a good sort of others, which never came in war."

We must add still another of our author's lively and graphic sketches of the court blackguardism of his time: "And if some Smithfield ruffian rake up some strange going, some new mowing with the mouth, some wrenching with the shoulder, some brave proverb, some fresh new oath, that is not stale but will run round in the mouth; some new-disguised garment, or desperate hat, fond in fashion or garish in colour, whatsoever it cost, how small soever his living be, by what shift soever it be gotten, gotten must it be, and used with the first, or else the grace of it is stale and gone. Some part of this graceless grace was described by me in a little rude verse long ago:

> "To laugh, to lie, to flatter, to face,
> Four ways in court to win men's grace.
> If thou be thrall to none of these,
> Away, good Peekgoose, hence, John Cheese.
> Mark well my word, and mark their deed,
> And think this verse part of my creed."

But Ascham complains that these disorders were not confined to the court; "for commonly," he says, "in the country also every where, innocency is gone, bashfulness is vanished; much presumption in youth, small authority in age; reverence is neglected, duties be confounded; and, to be short, disobedience doth overflow the banks

of good order almost in every place, almost in every degree of man."

Something, he considers, may be done to remedy these evils by good laws; but the object is perhaps chiefly to be effected by "observing private discipline, every man carefully in his own house; and namely, if special regard be had to youth, and that not so much in teaching them what is good, as in keeping them from that that is ill." "In youth," he says, "some ignorance is as necessary as much knowledge;" "but this ignorance in youth," he adds, "which I speak on, or rather this simplicity, or most truly this innocency, is that which the noble Persians, as wise Xenophon doth testify, were so careful to breed up their youth in. But Christian fathers commonly do not so. And I will tell you a tale as much to be misliked as the Persian's example is to be followed.

"This last summer I was in a gentleman's house, where a young child, somewhat past four years old, could in nowise frame his tongue to say a little short grace, and yet he could roundly rap out so many ugly oaths, and those of the newest fashion, as some good man of fourscore year old hath never heard named before; and that which was most detestable of all, his father and mother would laugh at it. I much doubt what comfort another day this child shall bring unto them. This child, using much the company of servingmen, and giving good ear to their talk, did easily learn which he shall hardly forget all the days of his life hereafter. So likewise in the court, if a young gentleman will venture himself into the company of ruffians, it is over great a jeopardy lest their fashions, manners, thoughts, talk, and deeds, will very soon be over like.

'The confounding of companies breedeth confusion of good manners both in the court and every where else.'"

Having then fortified these opinions by quoting the account given by Isocrates of the care that was taken in the noble city of Athens, to bring up their youth in honest company and virtuous discipline, he proceeds in the following animated strain:

"And to know what worthy fruit did spring of such worthy seed, I will tell you the most marvel of all, and yet such a truth as no man shall deny it, except such as be ignorant in knowledge of the best stories.

"Athens, by this discipline and good ordering of youth, did breed up, within the circuit of that one city, within the compass of one hundred years, within the memory of one man's life, so many notable captains in war, for worthiness, wisdom, and learning, as be scarce matchable, no not in the state of Rome, in the compass of those seven hundred years when it flourished most.

"And because I will not only say it, but also prove it, the names of them be these—Miltiades, Themistocles, Xantippus, Pericles, Cimon, Alcibiades, Thrasybulus, Conon, Iphicrates, Xenophon, Timotheus, Theopompus, Demetrius, and divers others more; of which every one may justly be spoken that worthy praise which was given to Scipio Africanus, who Cicero doubteth 'whether he were more noble captain in war, or more eloquent and wise counsellor in peace.' And if ye believe not me, read diligently Æmilius Probus* in Latin, and Plutarch in Greek, which two had no cause either to flatter or lie upon any of those which I have recited.

"And beside nobility in war, for excellent and match-

* He means the lives now commonly held to be written by Cornelius Nepos.

less masters in all manner of learning, in that one city, in memory of one age, were more learned men, and that in a manner altogether, than all time doth remember, than all place doth afford, than all other tongues do contain. And I do not mean of those authors which by injury of time, by negligence of men, by cruelty of fire and sword, be lost, but even of those which by God's grace are left yet unto us, of which, I thank God, even my poor study lacketh not one. As in philosophy, Plato, Aristotle, Xenophon, Euclid, and Theophrast; in eloquence and civil law, Demosthenes, Æschines, Lycurgus, Dinarchus, Demades, Isocrates, Isæus, Lysias, Antisthenes, Andocides; in history, Herodotus, Thucydides, Xenophon, and which we lack, to our great loss, Theopompus and Ephorus; in poetry, Æschylus, Sophocles, Euripides, Aristophanes, and somewhat of Menander, Demosthenes' sister's son.

"Now let Italian, and Latin itself, Spanish, French, Dutch [German is meant], and English, bring forth their learning and recite their authors, Cicero only excepted, and one or two more in Latin, they be all patched clouts and rags in comparison of fair woven broadcloths; and truly, if there be any good in them, it is either learned, borrowed, or stolen from some of those worthy wits of Athens.

"The remembrance of such a commonwealth, using such discipline and order for youth, and thereby bringing forth to their praise, and leaving to us for our example, such captains for war, such counsellors for peace, and matchless masters for all kind of learning, is pleasant for me to recite, and not irksome, I trust, for others to hear, except it be such as make neither account of virtue nor learning.

"And whether there be any such or no, I cannot well tell; yet I hear say, some young gentlemen of ours count it their shame to be counted learned, and perchance they count it their shame to be counted honest also, for I hear say they meddle as little with the one as with the other. A marvellous case, that gentlemen should be so ashamed of good learning, and never a whit ashamed of ill manners! Such do say for them, that the gentlemen of France do so; which is a lie, as God will have it. Langæus and Bellæus, that be dead, and the noble Vidam of Chartres, that is alive, and infinite more in France which I hear tell of, prove this to be most false. And though some in France, which will needs be gentlemen, whether men will or no, and have more gentleship in their hat than in their head, be at deadly feud with both learning and honesty; yet I believe, if that noble prince, King Francis the First, were alive, they should have neither place in his court nor pension in his wars, if he had knowledge of them. This opinion is not French, but plain Turkish, from whence some French fetch more faults than this, which I pray God keep out of England, and send also those of ours better minds, which bend themselves against virtue and learning, to the contempt of God, dishonour of their country, to the hurt of many others, and at length to the greatest harm and utter destruction of themselves.

"Some others, having better nature, but less wit (for ill commonly have overmuch wit), do not utterly dispraise learning, but they say, that, without learning, common experience, knowledge of all fashions, and haunting all companies, shall work in youth both wisdom and ability to execute any weighty affair. Surely long experience doth profit much, but most, and almost only to

him (if we mean honest affairs) that is diligently before instructed with precepts of well-doing. For good precepts of learning be the eyes of the mind, to look wisely before a man which way to go right, and which not.

"Learning teacheth more in one year than experience in twenty; and learning teacheth safely, when experience maketh more miserable than wise. He hazardeth sore that waxeth wise by experience. An unhappy master is he that is made cunning by many shipwrecks; a miserable merchant, that is neither rich nor wise but after some bankrouts. It is costly wisdom that is bought by experience. We know by experience itself, that it is a marvellous pain to find out a short way but by long wandering; and surely he that would prove wise by experience, he may be witty indeed, but even like a swift runner, that runneth fast out of the way, and upon the night, he knoweth not whither. And verily they be fewest in number that be wise by unlearned experience. And look well upon the former life of those few, whether your example be old or young, who, without learning, have gathered by long experience a little wisdom and some happiness; and when you do consider what mischief they have committed, what dangers they have escaped (and yet twenty for one do perish in the adventure), then think well with yourself whether ye would that your own son should come to wisdom and happiness by the way of such experience or no.

"It is a notable tale, that old Sir Roger Chamloe, some time Chief-Justice, would tell of himself. When he was Ancient in inn of court, certain young gentlemen were brought before him, to be corrected for certain misorders; and one of the lustiest said, 'Sir, we be young gentlemen; and wise men before us have proved all

fashions, and yet those have done full well.' This they said, because it was well known that Sir Roger had been a goodfellow in his youth. But he answered them very wisely. 'Indeed,' saith he, 'in youth I was as you are now; and I had twelve fellows like unto myself, but not one of them came to a good end. And therefore, follow not my example in youth, but follow my counsel in age, if ever ye think to come to this place or to these years that I am come unto, lest ye meet either with poverty or Tyburn in the way.'"

Although thus jealous, however, of the effects of teaching by experience, and earnestly in favour of the method of at least laying the foundations of knowledge in the young mind chiefly by learning and good bringing up, Ascham would by no means have the whole time of youth to be spent in study.

"I do not mean," he says, "by all this my talk, that young gentlemen should always be poring on a book, and by using good studies should lose honest pleasure, and haunt no good pastime; I mean nothing less. For it is well known that I both like and love, and have always, and do yet still use all exercises and pastimes that be fit for my nature and ability. And beside natural disposition, in judgment also I was never either Stoic in doctrine or Anabaptist in religion, to mislike a merry, pleasant, and playful nature, if no outrage be committed against law, measure, and good order."

He would wish that "young gentlemen should use and delight in all courtly exercises and gentlemanlike pastimes." "Therefore," he continues, "to ride comely, to run fair at the tilt or ring, to play at all weapons, to shoot fair in bow, or surely in gun, to vault lustily, to run, to leap, to wrestle, to swim, to dance comely,

to sing and play on instruments cunningly, to hawk, to hunt, to play at tennis, and all pastimes generally which be joined with labour used in open place, and on the daylight, containing either some fit exercise for war, or some pleasant pastime for peace, be not only comely and decent, but also very necessary for a courtly gentleman to use.

"But of all kinds of pastimes fit for a gentleman, I will, God willing, in fitter place, more at large declare fully, in my 'Book of the Cockpit,' which I do write to satisfy some, I trust with some reason, that be more curious in marking other men's doings than careful in mending their own faults. And some also will needs busy themselves in marvelling, and adding thereto unfriendly talk, why I, a man of good years, and of no ill place, I thank God and my prince, do make choice to spend such time in writing of trifles, as 'The School of Shooting,' 'The Cockpit,' and this Book of the first principles of Grammar, rather than to take some weighty matter in hand, either of religion or civil discipline."

Wise men, he says, will well allow of his choice in this matter; and as for such who have not wit of themselves, but must learn of others to judge right of men's doings, he refers them to Horace's precept in his Art of Poetry, to beware of high and lofty titles. Ascham may be supposed to insinuate, that though his books might seem from their titles to treat only on frivolous subjects, their substance would be found to be beyond the promise thus held out. "And thus much," he concludes, "out of my way, concerning my purpose in spending pen, and paper, and time upon trifles; and namely to answer some that have neither wit nor learning to do anything themselves, neither will nor honesty to say well of others."

Returning to the subject of joining learning with comely exercises, he highly recommends the work of Conto Baldesar Castiglione, entitled "Il Cortigiano," (the Courtier,) as excellently translated into English by Sir Thomas Hobby, "which book," says he, "advisedly read and diligently followed but one year at home in England, would do a young gentleman more good, I wiss, than three years' travel abroad spent in Italy." "But the English court," he adds, "has never lacked many fine examples for young gentlemen to follow." Among these he mentions the late King Edward, "and in the second degree, two noble prim-roses of nobility, the young Duke of Suffolk and Lord Henry Malavers," who, he says, "were two such examples to the court for learning, as our time may rather wish than look for again." At St. John's College, Cambridge, also, he commemorates Sir John Cheke and Dr. Redmayn as having, in his time, done more by their example than the good statutes of the college themselves did "to breed up learned men, of whom there were so many," says he, "in that one College of St. John's, at one time, as I believe the whole University of Louvain, in many years, was never able to afford."

He then proceeds: "Present examples of this present time I list not to touch; yet there is one example for all the gentlemen of this court to follow, that may well satisfy them, or nothing will serve them, nor no example move them to goodness and learning.

"It is your shame (I speak to you all, you young gentlemen of England), that one maid should go beyond you all in excellency of learning and knowledge of divers tongues. Point forth six of the best given gentlemen of this court, and all they together show not so much good

will, spend not so much time, bestow not so many hours daily, orderly, and constantly, for the increase of learning and knowledge, as doth the Queen's Majesty herself. Yea I believe, that beside her perfect readiness in Latin, Italian, French, and Spanish, she readeth here now at Windsor more Greek every day than some prebendary of this church doth read Latin in a whole week. And that which is most praiseworthy of all, within the walls of her privy chamber, she hath obtained that excellency of learning to understand, speak, and write both wittily with head and fair with hand, as scarce one or two rare wits in both the Universities have in many years reached unto. Amongst all the benefits that God hath blessed me withal, next the knowledge of Christ's true religion, I count this the greatest, that it pleased God to call me to be one poor minister in setting forward these excellent gifts of learning in this most excellent Prince; whose only example, if the rest of our nobility would follow, then might England be, for learning and wisdom in nobility, a spectacle to all the world beside. But see the mishap of men; the best examples have never such force to move to any goodness, as the bad, vain, light, and fond have to all illness."

We do not know to whom the allusion in the passage that follows points, unless it be to King Henry the Eighth.

"And one example, though out of the compass of learning, yet not out of the order of good manners, was notable in this court not fully twenty-four years ago; when all the acts of parliament, many good proclamations, divers strait commandments, sore punishments openly, special regard privately, could not do so much to take away one misorder, as the example of one big

one of this court did still to keep up the same: the memory whereof doth yet remain in a common proverb of Birching Lane.

"Take heed, therefore, ye great ones in the Court, yea though ye be the greatest of all, take heed what ye do, take heed how ye live, for as you great ones use to do, so all mean men love to do. You be indeed makers, or marrers, of all men's manners within the realm."

Ascham would have even the dress of the different classes of society to be regulated by law. "If," he says, "three or four great ones in court will needs outrage in apparel, in huge hose, in monstrous hats, in garish colours; let the prince proclaim, make laws, order, punish, command every gate in London daily to be watched; let all good men beside do everywhere what they can: surely the misorder of apparel in mean men abroad shall never be amended, except the greatest in court will order and mend themselves first. I know some great and good ones in court were authors that honest citizens in London should watch at every gate to take misordered persons in apparel; I know that honest Londoners did so; and I saw (which I saw then, and report now with some grief) that some courtly men were offended with these good men of London. And hat which grieved me most of all, I saw the very same time, for all these good orders commanded from the court, and executed in London, I saw, I say, come out of London, even unto the presence of the prince, a great rabble of mean and light persons in apparel, for matter against law, for making against order, for fashion, namely hose, so without all order, as he thought himself most brave that durst do most in breaking order, and was most monstrous in misorder. And for all the

great commandments that came out of the court, yet this bold misorder was winked at, and borne with in the court. I thought it was not well, that some great ones of the court durst declare themselves offended with good men of London for doing their duty; and the good ones of the court would not show themselves offended with ill men of London for breaking good order."

Such passages as these are curious, as illustrations of ancient manners; and we have for that reason preserved them in our abstract, though having little or no bearing upon the business of the Schoolmaster, at least in the present day. The author goes on to contend that the great ought to set an example to the rest of the nation in other things, as well as in propriety of dress. For instance, "if but two or three noblemen in the court," he says, "would but begin to shoot, all young gentlemen, the whole court, all London, the whole realm, would straightway exercise shooting."

Returning from this digression, the author states the sum of what he has hitherto delivered to be, "that from seven year old to seventeen, love is the best allurement to learning; from seventeen to seven-and-twenty, that wise men should carefully see the steps of youth surely staid by good order, in that most slippery time, and specially in the court;" and he then proceeds as follows:—

"Sir Richard Sackville, that worthy gentleman of worthy memory, as I said in the beginning, in the Queen's privy chamber at Windsor, after he had talked with me for the right choice of good wit in a child for learning; and of the true difference betwixt quick and hard wits; of alluring young children by gentleness to love learning; and of the special care that was to be had to keep young men from licentious living; he was most

earnest with me to have me say my mind also what I thought concerning the fancy that many young gentlemen of England have to travel abroad, and namely to lead a long life in Italy. His request, both for his authority and good will toward me, was a sufficient commandment unto me to satisfy his pleasure with uttering plainly my opinion in that matter. 'Sir,' quoth I, 'I take going thither, and living there, for a young gentleman, that doth not go under the keep and guard of such a man as both by wisdom can, and authority dare rule him, to be marvellous dangerous.'

"And why I said so then, I will declare at large now, which I said then privately, and write now openly; not because I do contemn either the knowledge of strange and divers tongues, and namely the Italian tongue, (which next the Greek and Latin tongue, I like and love above all other,) or else because I do despise the learning that is gotten, or the experience that is gathered in strange countries; or for any private malice that I bear to Italy; which country, and in it namely Rome, I have always specially honoured, because time was when Italy and Rome have been, to the great good of us that now live, the best breeders and bringers up of the worthiest men, not only for wise speaking, but also for well doing, in all civil affairs, that ever was in the world. But now that time is gone, and though the place remain, yet the old and present manners do differ as far as black and white, as virtue and vice."

Ascham then launches into a long invective against the manners of Italy, and what he calls "the enchantments of Circe," by which Englishmen are in danger of being corrupted in that country. But we shall not follow him through this declamation, which in general

has comparatively little interest for the modern reader. One or two personal reminiscences only, which it contains, may deserve to be extracted. "In our forefathers' time," says the author in one place, "when papistry as a standing pool covered and overflowed all England, few books were read in our tongue, saving certain books of chivalry, as they said, for pastime and pleasure." Among these he instances "La Mort d'Arthure," the character of which work he draws in no very flattering colours. "Yet," he adds, "I know when God's Bible was banished the court, and 'La Mort d'Arthure' received into the prince's chamber." The prince here meant must, we suppose, be King Henry the Eighth. The following notice of the author's visit to Venice afterwards occurs:

"I was once in Italy myself, but, I thank God, my abode there was but nine days; and yet I saw in that little time, in one city, more liberty to sin than ever I heard tell of in our noble city of London in nine years. I saw it was there as free to sin, not only without all punishment, but also without any man's marking, as it is free in the city of London to choose, without all blame, whether a man lust to wear shoe or pantocle. And good cause why; for being unlike in truth of religion, they must needs be unlike in honesty of living. For blessed be Christ, in our city of London, commonly the commandments of God be more diligently taught, and the service of God more reverently used, and that daily in many private men's houses, than they be in Italy once a week in their common churches; where masking ceremonies to delight the eye, and vain sounds to please the ear, do quite thrust out of the churches all service of God in spirit and truth. Yea, the Lord

Mayor of London being but a civil officer, is commonly for his time more diligent in punishing sin, the bent enemy against God and good order, than all the bloody inquisitors in Italy be in seven years. For their care and charge is not to punish sin, not to amend manners, not to purge doctrine, but only to watch and oversee that Christ's true religion set no sure footing where the Pope hath any jurisdiction."

Having apologized for this digression, Ascham concludes his first book as follows: "But to my matter; as I began plainly and simply with my young scholar, so will I not leave him, God willing, until I have brought him a perfect scholar out of the school, and placed him in the University, to become a fit student for logic, and rhetoric, and so after to physic, law, or divinity, as aptness of nature, advice of friends, and God's disposition shall lead him."

Book II.

The second book of the "Schoolmaster" professes in its title to teach "the ready way to the Latin tongue." It commences as follows:—

"After that your scholar, as I said before, shall come in deed, first to a ready perfectness in translating, then to a ripe and skilful choice in marking out his six points; as,

1. Proprium,
2. Translatum,
3. Synonymum,
4. Contrarium,
5. Diversum,
6. Phrases;

then take this order with him: read daily unto him some book of Tully; as the Third Book of Epistles, chosen out by Sturmius; *de Amicitiâ, de Senectute*, or that excellent Epistle, containing almost the whole First Book, *ad Q. Fratrem;* some comedy of Terence, or Plautus. But in Plautus, skilful choice must be used by the master, to train his scholar to a judgment in cutting out perfectly over old and improper words. Cæsar's Commentaries are to be read with all curiosity, wherein especially (without all exception to be made either by friend or foe) is seen the unspotted propriety of the Latin tongue, even when it was, as the Grecians say, in ἀκμῇ, that is, at the highest pitch of all perfectness; or some orations of T. Livius, such as be both longest and plainest.

"These books I would have him read now a good deal at every lecture; for he shall not now use daily translation, but only construe again, and parse, where ye suspect is any need: yet let him not omit in these books his former exercise, in marking diligently, and writing orderly out his six points; and for translating, use you yourself every second or third day, to choose out some Epistle *ad Atticum*, some notable commonplace out of his Orations, or some other part of Tully, by your discretion, which your scholar may not know where to find; and translate it you yourself into plain natural English, and then give it him to translate into Latin again, allowing him good space and time to do it both with diligent heed and good advisement.

"Here his wit shall be new set on work; his judgment for right choice truly tried; his memory for sure retaining better exercised, than by learning anything without the book; and here, how much he hath pro-

fited shall plainly appear. When he bringeth it translated unto you, bring you forth the place of Tully; lay them together, compare the one with the other; commend his good choice, and right placing of words; show his faults gently, but blame them not over sharply; for of such missings, gently admonished of, proceedeth glad and good heed-taking; of good heed-taking, springeth chiefly knowledge, which after groweth to perfectness, if this order be diligently used by the scholar, and gently handled by the master. For here shall all the hard points of grammar both easily and surely be learned up, which scholars in common schools, by making of Latins, be groping at with care and fear, and yet in many years they scarce can reach unto them.

"I remember, when I was young, in the North there went to the grammar-school little children; they came from thence great lubbers, always learning, and little profiting; learning without book everything, understanding within the book little or nothing. Their whole knowledge by learning without the book was tied only to their tongue and lips, and never ascended up to the brain and head, and, therefore, was soon spit out of the mouth again. They were as men always going, but ever out of the way. And why? For their whole labour, or rather great toil without order, was even vain idleness without profit. Indeed, they took great pains about learning, but employed small labour in learning; when by this way prescribed in this book, being straight, plain, and easy, the scholar is always labouring with pleasure, and ever going right on forward with profit. Always labouring I say; for, ere he have construed, parsed, twice translated over by good advisement, marked out his six points by skilful judgment, he shall have neces-

sary occasion to read over every lecture a dozen times at the least."

All this because the pupil shall do always in order, he will, the author contends, do it always with pleasure; and pleasure, he adds, according to Aristotle and other ancients, "allureth love; love hath lust to labour; labour always obtaineth his purpose." He then proceeds:—

"When by this diligent and speedy reading over those forenamed good books of Tully, Terence, Cæsar, and Livy, and by this second kind of translating out of your English, time shall breed skill, and use shall bring perfection: then ye may try, if ye will, your scholar with the third kind of translation, although the two first ways, by mine opinion, be not only sufficient of themselves, but also surer, both for the master's teaching and scholar's learning, than this third way is, which is thus:—

"Write you in English some letter, as it were from him to his father, or to some other friend, naturally, according to the disposition of the child; or some tale, or fable, or plain narration, according as Aphthonius* beginneth his exercises of learning: and let him translate into Latin again, abiding in such place where no other scholar may prompt him. But yet, use you yourself such discretion for choice therein, as the matter may be within the compass, both for words and sentences, of his former learning and reading. And now take

* This book of Aphthonius, now forgotten, was once in great vogue in our schools and on the continent. Among the list of books in Sandwich School box or library (Temp. Eliz. Reg.) was a copy of Aphthonius. There is a short notice of Aphthonius in the Penny Cyclopædia.

heed, lest your scholar do not better in some point than you yourself, except ye have been diligently exercised in these kinds of translating before.

"I had once a proof hereof, tried by good experience, by a dear friend of mine, when I came first from Cambridge to serve the Queen's Majesty, then Lady Elizabeth, lying at worthy Sir Antony Denny's, in Cheston. John Whitney, a young gentleman, was my bed-fellow, who willing by good nature, and provoked by mine advice, began to learn the Latin tongue, after the order declared in this book. We began after Christmas; I read unto him Tully *de Amicitiâ*, which he did every day twice translate out of Latin into English, and out of English into Latin again. About St. Lawrence tide, after, to prove how he profited, I did choose out Torquatus' talk *de Amicitiâ*, in the latter end of the first book *de Finibus*, because that place was the same in the matter, like in words and phrases, nigh to the form and fashion of sentences, as he had learned before in *de Amicitiâ*. I did translate it myself into plain English, and gave it him to turn into Latin, which he did so choicely, so orderly, so without any great miss in the hardest points of grammar, that some in seven year in grammar schools, yea, and some in the University too, cannot do half so well. This worthy young gentleman, to my greatest grief, to the great lamentation of that whole house, and especially to that most noble lady, now Queen Elizabeth herself, departed within few days out of this world.

"And if in any cause a man may without offence of God speak somewhat ungodly, surely it was some grief unto me to see him hie so hastily to God as he did. A court full of such young gentlemen were rather a para-

dise, than a court upon earth. And though I had never poetical head to make any verse in any tongue; yet either love, or sorrow, or both, did wring out of me then certain careful thoughts of my good will towards him, which in my mourning for him fell more by chance, than either by skill or use, into this kind of misorderly metre."

For the verses, however, we must refer our readers to the original work; while we proceed to the discussion upon which the author next enters, respecting the "six ways appointed by the best learned men, for the learning of tongues and increase of eloquence." These he enumerates as being,—1. Translation; 2. Paraphrase; 3. Metaphrasis; 4. Epitome; 5. Imitation; and 6. Declamation. "All these," he says, "be used, and commended; but in order, and for respects, as person, ability, place, and time, shall require. The five last be fitter for the master than the scholar; for men than for children; for the Universities rather than for grammar schools. Yet nevertheless, which is fittest in mine opinion for our school, and which is either wholly to be refused, or partly to be used for our purpose, I will by good authority, and some reason I trust, particularly of every one, and largely enough of them all, declare orderly unto you."

I. "Translation," says Ascham, "is easy in the beginning for the scholar, and bringeth also much learning and great judgment to the master. It is most common and most commendable of all other exercises for youth: most common; for all your constructions in grammar schools be nothing else but translations. But because they be not double translations, as I do require, they bring forth but simple and single commodity; and be-

cause also they lack the daily use of writing which is the only thing that breedeth deep root, both in the wit for good understanding, and in the memory for sure keeping of all that is learned."

Having then examined at considerable length the opinions of Cicero, Quintilian, and others of the ancients upon the subject, he thus concludes :—

"And by these authorities and reasons am I moved to think this way of double translating, either only, or chiefly, to be fittest for the speedy and perfect attaining of any tongue. And for speedy attaining, I durst venture a good wager, if a scholar in whom is aptness, love, diligence, and constancy, would but translate after this sort one little book in Tully (as *de Senectute*, with two Epistles, the first *ad Q. Fratrem*, the other *ad Lentulum*, the last save one in the First Book,) that scholar, I say, should come to a better knowledge in the Latin tongue than the most part do that spend four or five years in tossing all the rules of grammar in common schools. Indeed, this one Book with these two Epistles, is not sufficient to afford all Latin words (which is not necessary for a young scholar to know,) but it is able to furnish him fully, for all points of grammar, with the right placing, ordering, and use of words, in all kind of matter. And why not? For it is read, that Dion Prusæus,* that wise philosopher and excellent orator of all his time, did come to the great learning and utterance that was in him, by reading and following only two books, Phædon Platonis, and Demosthenes' most notable Oration Περὶ Παραπρεσβείας.

"And a better and nearer example herein may be

* That is, Chrysostom, whose name was Dion, and who was a native of Prusa in Bithynia.

our most noble Queen Elizabeth, who never took yet Greek nor Latin grammar in her hand, after the first declining of a noun and a verb; but only by this double translating of Demosthenes and Isocrates daily, without missing, every forenoon, and likewise some part of Tully every afternoon, for the space of a year or two, hath attained to such a perfect understanding in both the tongues, and to such a ready utterance of the Latin, and that with a judgment, as they be few in number in both the Universities, or elsewhere in England, that be in both tongues comparable with her Majesty."

II. Paraphrasis is defined as being "not only to express at large with more words, but to shine and contend to translate the best Latin authors into other Latin words, as many, or thereabout." This method Ascham decidedly condemns as a school exercise, on the same grounds on which it is disapproved of by Cicero and the younger Pliny, the latter of whom in one of his Epistles calls it *audax contentio*, an audacious contention. "It is a bold comparison, indeed," says our author, "to think to say better than that is best. Such turning of the best into worse, is much like the turning of good wine, out of a fair sweet flagon of silver, into a foul musty bottle of leather; or to turn pure gold and silver into foul brass and copper."

A kind of paraphrase, he goes on to remark, which he would better allow, is to turn a rude and barbarous into a proper and eloquent style; but this, he adds, is an exercise not fit for a scholar, but for a perfect master. He quotes as an example, Sebastian Castalio's translation of Thomas à Kempis's book *de Imitando Christo.*

In reference again to the solicitude of many modern

writers about variety of expression, he observes: "The old and best authors that ever wrote were content, if occasion required to speak twice of one matter, not to change the words, but ῥητῶς, that is, word for word, to express it again. For they thought that a matter, well expressed with fit words and apt composition, was not to be altered; but liking it well themselves, they thought it would also be well allowed of others."

It requires, he contends, greater learning and deeper judgment than are to be hoped for at any schoolmaster's hand rightly to distinguish all the nice and delicate points of style, and to undertake the correction of such faults as tumidity, poverty, luxuriance of diction, without running the risk of misleading where he attempts to instruct. Even the greatest scholars have frequently wanted this critical faculty. Thus, "some loving Melancthon well, as he was well worthy; but yet not considering well, nor wisely, how he of nature, and all his life and study by judgment, was wholly spent in *genere disciplinabili*, that is, in teaching, reading, and expounding plainly and aptly school matters; and, therefore, employed thereunto a fit, sensible, and calm kind of speaking and writing;—some, I say, with very well liking, but not with very well weighing Melancthon's doings, do frame themselves a style cold, lean, and weak, though the matter be never so warm and earnest; not much unlike unto one, that had a pleasure in a rough, rainy, winter-day, to clothe himself with nothing else but a demi-buckram cassock, plain without plaits, and single without lining, which will neither bear off wind nor weather, nor yet keep out the sun in any hot day.

"Some suppose, and that by good reason, that Me-

lancthon himself came to this low kind of writing by using over much paraphrasis in reading. For studying thereby to make everything straight and easy, in smoothing and planing all things too much, never leaveth, while the sense itself be left both loose and leasy. And some of those paraphrases of Melancthon be set out in print, as 'Pro Archia Poëta,' and 'M. Marcello.' But a scholar, by mine opinion, is better occupied in playing or sleeping than by spending time, not only vainly, but also harmfully, in such a kind of exercise.

"Therefore," he concludes, "in place of Latins for young scholars, and of paraphrasis for the masters, I would have double translation specially used. For in double translating a perfect piece of Tully or Cæsar, neither the scholar in learning, nor the master in teaching, can err. A true touchstone, a sure mete-wand lieth before both their eyes. For all right congruity, propriety of words, order in sentences, the right imitation to invent good matter, to dispose it in good order, to confirm it with good reason, to express any purpose fitly and orderly, is learned thus both easily and perfectly. Yea, to miss sometime in this kind of translation bringeth more profit than to hit right either in paraphrasis or making of Latins. For though ye say well in a Latin making, or in a paraphrasis, yet you being but in doubt, and uncertain whether ye say well or no, ye gather and lay up in memory no sure fruit of learning thereby; but if ye fault in translation, ye are easily taught how perfectly to amend it, and so well warned how after to eschew all such faults again.

"Paraphrasis, therefore, by mine opinion, is not meet for grammar schools, nor yet very fit for young men in the University, until study and time have bred in them perfect learning and steadfast judgment."

There is, indeed, he observes, one kind of paraphrasis which may be used both without hurt and to much profit; but it only suits the Greek language. This is the turning of a passage written in one dialect into another, as, for instance, from Ionic or Doric into Attic. It is hardly necessary to remark, that this exercise, so far from being paraphrasis, can hardly be called even translation. In some cases it would not amount to more than a change in orthography.

An instance is also given of a paraphrasis in Latin, which may be studied with profit, in two passages from Cicero, the one in the second book "De Finibus," the other in the first book "De Officiis," in which that writer appears to translate the same Greek original in different words. "The conference of these two places," says our author, "containing so excellent a piece of learning as this is, expressed by so worthy a wit as Tully's was, must needs bring great pleasure and profit to him that maketh true account of learning and honesty. But if we had the Greek author, the first pattern of all, and thereby to see how Tully's wit did work at divers times; how, out of one excellent image might be framed two other, one in face and favour, but somewhat differing in form, figure, and colour, surely such a piece of workmanship, compared with the pattern itself, would better please the eyes of honest, wise, and learned minds, than two of the fairest Venuses that ever Apelles made."

III. Metaphrasis. "This kind of exercise," says Ascham, "is all one with paraphrasis, save it is out of verse either into prose, or into some other kind of metre; or else out of prose into verse, which was Socrates's exercise and pastime, as Plato reporteth, when he was in prison, to translate Æsop's fables into verse. Quin-

tilian doth greatly praise also this exercise; but because Tully doth disallow it in young men, by mine opinion it were not well to use it in grammar schools, even for the self-same causes that he recited against paraphrasis."

As an example, however, if a schoolmaster, for his own instruction, should be desirous of seeing a perfect paraphrasis, there is given the prose version by Socrates of the passage respecting the coming of Chryses to the camp of the Greeks, in the first book of the Iliad, as it is recorded by Plato in the third book of his Republic. Ascham would have his Schoolmaster weigh well together Homer and Plato here, and mark diligently these four points—What is kept—What is added—What is left out—What is changed, either in choice of words or form of sentences. "Which four points," he adds, "be the right tools to handle like a workman this kind of work, as our scholar shall better understand when he hath been a good while in the University; to which time and place I chiefly remit this kind of exercise."

To this he subjoins a passage out of Hesiod, which has been imitated by Sophocles, St. Basil, Cicero, and Livy, and one from the beginning of the Eunuchus of Terence, which Horace has imitated in one of his satires. Commending the comparison of such passages as these, he remarks:

"This exercise may bring much profit to ripe heads and staid judgments; because, in travelling in it, the mind must needs be very attentive and busily occupied in turning and tossing itself many ways, and conferring with great pleasure the variety of worthy wits and judgments together. But this harm may soon come thereby, and namely to young scholars, lest in seeking other words and new form of sentences, they chance upon the

worse; for the which only cause, Cicero thinketh this exercise not to be fit for young men."

IV. Of Epitome our author observes: "This is a way of study belonging rather to matter than to words; to memory than to utterance; to those that be learned already, and hath small place at all among young scholars in grammar schools. It may profit privately some learned men, but it hath hurt generally learning itself very much. For by it we have lost whole Trogus, the best part of T. Livius, the goodly dictionary of Pompeius Festus, a great deal of the civil law, and other many notable books, for the which cause I do the more mislike this exercise both in old and young." It may be remarked, however, that such facts as these make really no argument at all against epitome as a school exercise. Ascham proceeds:—

"Epitome is good privately for himself that doth work it, but ill commonly for all others that use other men's labour therein. A silly poor kind of study, not unlike to the doing of those poor folk which neither till, nor sow, nor reap themselves, but glean by stealth upon other men's ground. Such have empty barns for dear years."

"I do wish," he afterwards remarks, in reference to the common books of exercises used at schools, "that all rules for young scholars were shorter than they be. For without doubt, Grammatica itself is sooner and surer learned by examples of good authors than by the naked rules of grammarians. Epitome hurteth more in the universities and study of philosophy, but most of all in divinity itself."

He acknowledges, however, that "books of common places be very necessary to induce a man into an orderly general knowledge, how to refer orderly all that he read-

eth *ad certa rerum capita* (to certain heads), and not wander in study."

We give the remainder of what is said under this head, with the omission only of a few sentences here and there, which does not break the sense.

"Nevertheless, some kind of epitome may be used by men of skilful judgment, to the great profit also of others. As if a wise man would take Hall's Chronicle, where much good matter is quite marred with indenture English, and, first, change strange and inkhorn terms into proper and commonly used words; next, specially to weed out that that is superfluous and idle, not only where words be vainly heaped one upon another, but also where many sentences of one meaning be so clouted up together, as though Mr. Hall had been not writing the story of England, but varying a sentence in Hitching school. Surely a wise, learned man, by this way of epitome, in cutting away words and sentences, and diminishing nothing at all of the matter, should leave to men's use a story half as much as it was in quantity, but twice as good as it was both for pleasure and also commodity.

"Another kind of epitome may be used likewise very well to much profit. Some man either by lustiness of nature, brought by ill teaching to a wrong judgment, is over full of words and sentences, and matter; and yet all his words be proper, apt, and well chosen, all his sentences be round and trimly framed, his whole matter grounded upon good reason, and stuffed with full arguments for his intent and purpose; yet when his talk shall be heard, or his writing be read of such one as is either of my two dear friends, Mr. Haddon at home, or Johannes Sturmius in Germany, that *nimium* in him

which fools and unlearned will most commend, shall either of these two bite his lip or shake his head at it.

"This fulness, as it is not to be misliked in a young man, so in farther age, in greater skill, and weightier affairs, is to be temperated, or else discretion and judgment shall seem to be wanting in him. But if his style be still over rank and lusty, as some men being never so old and spent by years will still be full of youthful conditions (as was Sir Francis Brian,* and evermore would have been), such a rank and full writer must use, if he will do wisely, the exercise of a very good kind of epitome, and do, as certain wise men do that be over fat and fleshy, who, leaving their own full and plentiful table, go to sojourn abroad from home for a while at the temperate diet of some sober man, and so by little and little cut away the grossness that is in them.

"As for example, if Osorius† would leave off his lustiness in striving against St. Austin, and his over rank railing against poor Luther and the truth of God's doctrine, and give his whole study, not to write anything of his own for a while, but to translate Demosthenes with so strait, fast, and temperate a style in Latin as he is in Greek, he would become so perfect and pure a writer, I believe, as have been few or none since Cicero's days. And so, by doing himself and all learned men much good, do others less harm, and Christ's doctrine less injury than he doth, and withal win unto himself many worthy friends, who agreeing with him gladly in the love and liking of excellent learning, are sorry to see so worthy a wit, so rare eloquence, wholly spent and consumed in striving with God and good men.

* Ambassador at the court of Rome for King Henry VIII.

† Jerome Osorio, a learned Portuguese bishop of the sixteenth century.

"Among the rest no man doth lament him more than I, not only for the excellent learning that I see in him, but also because there hath passed privately betwix him and me sure tokens of much good will and friendly opinion, the one toward the other. And surely the distance betwixt London and Lisbon should not stop any kind of friendly duty that I could either show to him or do to his, if the greatest matter of all did not in certain points separate our minds.

"And yet, for my part, both towards him and divers others here at home, for like cause of excellent learning, great wisdom, and gentle humanity, which I have seen in them, and felt at their hands myself: where the matter of difference is mere concience in a quiet mind inwardly, and not contentious malice with spiteful railing openly, I can be content to follow this rule, 'in misliking some one thing, not to hate for anything else.' .....

"Some will judge much boldness in me thus to judge of Osorius's style; but wise men do know that mean lookers on may truly say, for a well made picture, 'This face had been more comely if that high red in the cheek were somewhat more pure sanguine than it is; and yet the stander-by cannot amend it himself by any way. ...

"Although a man groundly learned already may take much profit himself in using by epitome to draw other men's works for his own memory sake into shorter room (as Canterus hath done very well the whole Metamorphosis of Ovid, and David Chythræus a great deal better the Nine Muses of Herodotus, and Melancthon, in mine opinion, far best of all, the whole Story of Time, not only to his own use, but to other men's profit, and his great praise); yet epitome is most necessary of all in a man's own writing, as we learn of that noble poet

Virgil, who, if Donatus say true, in writing that perfect work of the Georgics, used daily, when he had written forty or fifty verses, not to cease cutting, paring, and polishing of them, till he had brought them to the number of ten or twelve.

"And this exercise is not more needfully done in a great work than wisely done in our common daily writing, either of letter or other thing else; that is to say, to peruse diligently, and see and spy wisely, what is always more than needeth. For twenty to one offend more in writing too much than too little; even as twenty to one fall into sickness rather by over much fulness than by any lack or emptiness.....

"And of all other men, even those that have the inventivest heads for all purposes, and roundest tongues in all matters and places (except they learn and use this good lesson of epitome), commit commonly greater faults than dull, staying, silent men do. For quick inventors, and fair ready speakers, being boldened with their present ability to say more, and perchance better too, at the sudden for that present than any others can do, use less help of diligence and study than they ought to do, and so have in them commonly less learning and weaker judgment for all deep considerations than some duller heads and slower tongues have.

"And therefore ready speakers generally be not the best, plainest, and wisest writers, nor yet the deepest judgers in weighty affairs; because they do not tarry to weigh and judge all things as they should, but having their heads over full of matter, be like pens over full of ink, which will sooner blot than make any fair letter at all. Time was, when I had experience of two ambassadors in one place, the one of a hot head to invent,

and of a hasty hand to write; the other cold and staid in both; but what difference of their doings was made by wise men is not unknown to some persons. The Bishop of Winchester, Stephen Gardiner, had a quick head and a ready tongue, and yet was not the best writer in England. Cicero in Brutus doth wisely note the same in Serg. Galba and Q. Hortensius, who were both hot, lusty, and plain speakers, but cold, loose, and rough writers. And Tully telleth the cause why, saying, when they spoke, their tongue was naturally carried with full tide and wind of their wit; when they wrote, their head was solitary, dull, and calm; and so their style was blunt and their writing cold." The author then quotes a remark from Cicero, to the effect, that the fault in question is one by which men of much natural ability, but insufficiently instructed, are often found to be characterised. "And therefore," he concludes, "all quick inventors and ready fair speakers must be careful that, to their goodness of nature, they add also in any wise study, labour, leisure, learning, and judgment, and then they shall indeed pass all other (as I know some do in whom all those qualities are fully planted), or else if they give over much to their wit, and over little to their labour and learning, they will soonest overreach in talk, and farthest come behind in writing, whatsoever they take in hand. The method of epitome is most necessary for such kind of men."

V. Imitation Ascham defines to be "a faculty to express lively and perfectly that example which you go about to follow." "All languages," he continues, "both learned, and mother tongues, be gotten, and gotten solely, by imitation. For as ye use to hear, so ye

learn to speak; if ye hear no other, ye speak not yourself; and whom ye only hear, of them ye only learn.

"And therefore if ye would speak as the best and wisest do, ye must be conversant where the best and wisest are; but if you be born or brought up in a rude country, ye shall not choose but speak rudely. The rudest man of all knoweth this to be true.

"Yet nevertheless, the rudeness of common and mother tongues is no bar for wise speaking. For in the rudest country, and most barbarous mother language, many be found that can speak very wisely; but in the Greek and Latin tongues, the two only learned tongues, which be kept not in common talk, but in private books, we find always wisdom and eloquence, good matter and good utterance, never or seldom asunder. For all such authors, as be fullest of good matter and right judgment in doctrine, be likewise always most proper in words, most apt in sentence, most plain and pure in uttering the same.

"And contrariwise, in those two tongues, all writers, either in religion or any sect of philosophy, whosoever be found fond in judgment of matter, be commonly found as rude in uttering their minds. For stoics, anabaptists, and friars, with epicures, libertines, and monks, being most like in learning and life, are no fonder and pernicious in their opinions, than they be rude and barbarous in their writings. They be not wise, therefore, that say, 'What care I for man's words and utterance, if his matter and reasons be good!' Such men say so, not so much of ignorance, as either of some singular pride in themselves, or some special malice of others, or some private and partial matter, either in religion or other kind of learning. For good and choice meats be no

more requisite for healthy bodies, than proper and apt words be for good matters; and also plain and sensible utterance for the best and deepest reasons: 'In which two points standeth perfect eloquence, one of the fairest and rarest gifts that God doth give to man.'

"Ye know not what hurt ye do to learning, that care not for words, but for matter, and so make a divorce betwixt the tongue and the heart. For mark all ages, look upon the whole course of both the Greek and Latin tongues, and ye shall surely find, that when apt and good words began to be neglected, and properties of those two tongues to be confounded, then also began ill deeds to spring; strange manners to express good orders; new and fond opinions to strive with old and true doctrine, first in philosophy, and after in religion; right judgment of all things to be perverted; and so virtue with learning is contemned, and study left off. 'Of ill thoughts cometh perverse judgment; of ill deeds springeth lewd talk.' Which four misorders, as they mar man's life, so destroy they good learning withal."

Our author then instances, as illustrating "the goodness of God's providence for learning," the circumstance (which, however, is not quite the fact), that the books of the old Stoics and Epicureans (the sects "which were fondest in opinion and rudest in utterance") have all perished. But "again," he exclaims, "behold on the other side, how God's wisdom hath wrought that, of the Academics and Peripatetics, those that were wisest in judgment of matters, and purest in uttering of their minds, the first and chiefest that wrote most and best in either tongue (as Plato and Aristotle in Greek, and Tully in Latin), be so either wholly, or sufficiently left unto us, as I never knew yet scholar,

that gave himself to like and love, and follow chiefly those three authors, but he proved both learned, wise, and also an honest man; if he joined withal the true doctrine of God's Holy Bible; without the which, the other three be but fine edge tools in a fool's or madman's hand."

It is then remarked that there are three kinds of imitation in matters of learning. First, "the whole doctrine of comedies and tragedies is a perfect imitation, or fair lively painted picture of the life of every degree of man." "The second kind of imitation is to follow, for learning of tongues and sciences, the best authors. Here riseth among proud and envious wits a great controversy, whether one or many are to be followed; and if one, who is that one." "The third kind of imitation belongeth to the second; as when you be determined whether you will follow one or more, to know perfectly, and which way to follow that one; in what place; by what mean and order; by what tools and instruments ye shall do it; by what skill and judgment ye shall truly discern whether ye follow rightly or no."

"Erasmus, the ornament of learning in our time," proceeds our author, "doth wish that some man of learning and diligence would take the like pains in Demosthenes and Tully, that Macrobius hath done in Homer and Virgil; that is, to write out and join together, where the one doth imitate the other." This wish of Erasmus he admits is good, "but surely," he adds, "it is not good enough." He would have much more to be done than Macrobius has attempted. "If a man," he says, "would take this pains also, when he hath laid two places of Homer and Virgil, or of Demosthenes and Tully together, to teach plainly withal, after this sort:—

"1. Tully retaineth thus much of the matter, these sentences, these words.

"2. This and that he leaveth out, which he doth wittily to this end and purpose.

"3. This he addeth here.

"4. This he diminisheth there.

"5. This he ordereth thus, with placing that here, not there.

"6. This he altereth and changeth either in property of words, in form of sentence, in substance of the matter, or in one or other convenient circumstance of the author's present purpose.

"In these few rude English words are wrapped up all the necessary tools and instruments, wherewith true imitation is rightly wrought withal in any tongue. Which tools I openly confess be not of mine own forging, but partly left unto me by the cunningest master, and one of the worthiest gentlemen that ever England bred, Sir John Cheke; partly borrowed by me out of the shop of the dearest friend I have out of England, Joh. Sturmius. And therefore I am the bolder to borrow of him, and here to leave them to others, and namely to my children. Which tools if it please God that another day they may be able to use rightly, as I do wish, and daily pray they may do, I shall be more glad than if I were able to leave them a great quantity of land."

Ascham considers it as disgraceful to students "who having so fair examples to follow as Plato and Tully, do not use so wise ways in following them for the obtaining of wisdom and learning, as rude, ignorant artificers do for gaining a small commodity." "For surely," he says, "the meanest painter useth more wit, better art, greater diligence in his shop in fol-

lowing the picture of any mean man's face, than commonly the best students do even in the University, for the attaining of learning itself."

"Some ignorant, unlearned, and idle student, or some busy looker upon this little poor book, that hath neither will to do good himself, nor skill to judge right of others, but can lustily contemn by pride and ignorance all painful diligence and right order in study, will perchance say, that I am too precise, too curious in marking and pidling thus about the imitation of others; and that the old and worthy authors did never busy their heads and wits in following so precisely either the matter what other men wrote, or else the manner how other men wrote. They will say, 'It were a plain slavery, and injury too, to shackle and tie a good wit, and hinder the course of a man's good nature, with such bonds of servitude in following others. Except such men think themselves wiser than Cicero for teaching of eloquence, they must be content to turn a new leaf."

The best book, he then proceeds to argue, "that ever Tully wrote by all men's judgment, and by his own testimony too, in writing whereof he employed most care, study, learning, and judgment, is his book De Oratore ad Q. Fratrem." Now both in matter and in manner this work is altogether an imitation. The matter is Aristotle's, and the manner is avowedly after Plato.

He then examines what has been said upon the subject of imitation by various writers, both ancient and modern. Of those who have treated the subject, he says, he has read as many as he could get diligently. We can only, however, here enumerate the names of the authors whose opinions he reviews. They are Cicero,

Dionysius of Halicarnassus, Quintilian, Erasmus, Budæus, Melancthon, Camerarius, Sambucus, Bembus, John Sturmius (whom Ascham declares to be far the best, in his opinion, that ever took the matter in hand); and, finally, Bartholomew Riccius Farrariensis, who, he says, "writeth the better because his whole doctrine, judgment, and order seemeth to be borrowed out of Joan. Sturmius's books." In giving directions for imitation of prose, Riccius has taken as his example or model the manner in which Cicero has, in modern times, been imitated by Longolius; this he has done because his purpose was to teach only the Latin tongue: whereas, the plan proposed by our author, of comparing Virgil with Homer, and Cicero with Demosthenes, requires a master perfectly skilled in both Latin and Greek. "It is my wish, indeed," says he, "and that by good reason; for whosoever will write well of any matter, must labour to express that that is perfect, and not to stay and content himself with the mean; yea, I say farther, though it be not impossible, yet it is very rare and marvellous hard to prove excellent in the Latin tongue for him that is not also well seen in the Greek tongue. Tully himself, most excellent of nature, most diligent in labour, brought up from his cradle in that place, and in that time, where and when the Latin tongue most flourished naturally in every man's mouth; yet was not his own tongue able itself to make him so cunning in his own tongue as he was indeed, but the knowledge and imitation of the Greek tongue withal. This he confesseth himself, this he uttereth in many places, as those can tell best that use to read him most.

"Therefore thou, that shootest at perfection in the Latin tongue, think not thyself wiser than Tully was, in

choice of the way that leadeth rightly to the same; think not thy wit better than Tully's was, as though that may serve thee that was not sufficient for him. For even as a hawk flieth not high with one wing, even so a man reacheth not to excellency with one tongue.

"I have been a looker on in the cockpit of learning these many years, and one cock only have I known, which with one wing even at this day doth pass all others, in mine opinion, that ever I saw in any pit in England, though they had two wings. Yet, nevertheless, to fly well with one wing, to run fast with one leg, be rather rare masteries, much to be marvelled at, than sure examples safely to be followed. A bishop that now liveth, a good man, whose judgment in religion I better like than his opinion in perfectness in other learning, said once unto me, 'We have no need now of the Greek tongue, when all things be translated into Latin.' But the good man understood not that even the best translation is for mere necessity, but an evil imped wing to fly withal, or a heavy stump leg of wood to go withal. Such, the higher they fly, the sooner they falter and fail; the faster they run, the oftener they stumble, and sorer they fall. Such as will needs so fly may fly at a pie and catch a daw; and such runners as commonly they, shove and shoulder to stand foremost, yet in the end they come behind others, and deserve but the hopshackles, if the masters of the game be right judgers."

A better book, therefore, Ascham thinks, than any that had yet been produced might be made on imitation in the learned languages, while the task of compiling it would, at the same time, be more pleasant than painful. "Erasmus," he observes, "giving himself to read over

all authors, Greek and Latin, seemeth to have prescribed to himself this order of reading; that is, to note out by the way three special points, all adages, all similitudes, and all witty sayings of most notable personages. And so by one labour, he left to posterity three notable books, and namely* two, his Chiliades, Apophthegmata, and Similia." In the same manner, he proposes that the good student should bend himself to read diligently over the works of Cicero; and also at the same time, with his books of philosophy, Plato and Xenophon; with his orations, Isocrates and Demosthenes; and with his rhetorical treatises, the writings of Aristotle. "The books," says he, "be not many, nor long, nor rude in speech, nor mean in matter, but next the majesty of God's holy word, most worthy for a man, the lover of learning and honesty, to spend his life in. Yea, I have heard worthy Mr. Cheke many times say, 'I would have a good student pass and journey through all authors both Greek and Latin.' But he that will dwell in these few books only, first, in God's holy Bible, and then join with it Tully in Latin, Plato, Aristotle, Xenophon, Isocrates, and Demosthenes in Greek, must needs prove an excellent man."

Then follow directions for comparing Horace with Pindar, Livy with Thucydides, Dionysius of Halicarnassus, and Polybius, &c. "I trust," he says, "this my writing shall give some good student occasion to take some piece in hand of this work of imitation. And as I had rather have any do it than myself, yet surely myself rather than none at all. And by God's grace, if God do lend me life with health, free leisure, and liberty, with good liking and a merry heart, I will turn the best

* Especially.

part of my study and time to toil in one or other piece of this work of imitation."

Aristotle, he contends, ought never to be read without his precepts being illustrated by examples taken out of Plato and other good authors. Then follows a long passage, which is, however, too interesting to be abridged:

"Cambridge, at my first coming thither, but not at my going away, committed this fault in reading the precepts of Aristotle without the examples of other authors. But herein, in my time, these men of worthy memory, Mr. Redman, Mr. Cheke, Mr. Smith, Mr. Haddon, Mr. Watson, put so to their helping hands, as that University, and all students there, as long as learning shall last, shall be bound unto them, if that trade in study be truly followed which those men left behind them there.

"By this small mention of Cambridge, I am carried nto three imaginations: first, into a sweet remembrance of my time spent there; then, into some careful thoughts for the grievous alteration that followed soon after; lastly, into much joy, to hear tell of the good recovery and earnest forwardness in all good learning there again.

"To utter these my thoughts somewhat more largely were somewhat beside my matter, yet not very far out of the way; because it shall wholly tend to the good encouragement and right consideration of learning, which is my full purpose in writing this little book: whereby also shall well appear this sentence to be most true, 'That only good men, by their government and example, make happy times in every degree and state.'

"Doctor Nicolas Medcalfe, that honourable father, was Master of St. John's College when I came thither; a man meanly learned himself, but not meanly affec-

tioned to set forward learning in others. He found that college spending scarce two hundred marks by the year: he left it spending a thousand marks, and more. Which he procured not with his money, but by his wisdom; not chargeably bought by him, but liberally given by others by his means, for the zeal and honour they bore to learning. And that which is worthy of memory, all these givers were almost Northern men; who, being liberally rewarded in the service of their Prince, bestowed it as liberally for the good of their country. Some men thought, therefore, that Dr. Medcalfe was partial to Northern men; but sure I am of this, that Northern men were partial in doing more good, and giving more lands to the furtherance of learning, than any other countrymen in those days did, which deed should have been rather an example of goodness for others to follow, than matter of malice for any to envy, as some there were that did.

"Truly Dr. Medcalfe was partial to none, but indifferent to all; a master for the whole, a father to every one in that College. There was none so poor, if he had either will to goodness, or wit to learning, that could lack being there, or should depart from thence for any need. I am witness myself, that money many times was brought into young men's studies by strangers, whom they knew not. In which doing, this worthy Nicolaus followed the steps of good old St. Nicolaus, that learned bishop. He was a Papist indeed; but would to God among all us Protestants I might once see but one, that would win like praise in doing like good for the advancement of learning and virtue. And yet, though he were a Papist, if any young man, given to new learning, as they termed it, went beyond his

fellows in wit, labour, and towardness, even the same neither lacked open praise to encourage him, nor private exhibition to maintain him; as worthy Sir John Cheke, if he were alive, would bear good witness, and so can many more. I, myself, one of the meanest of a great number in that College, because there appeared in me some small show of towardness and diligence, lacked not his favour to further me in learning.

"And being a boy, new bachelor of arts, I chanced among my companions to speak against the Pope; which matter was then in every man's mouth, because Dr. Hains and Dr. Skip were come from the Court to debate the same matter by preaching and disputation in the University. This happened the same time when I stood to be fellow there. My talk came to Dr. Medcalfe's ear: I was called before him, and the Seniors; and after grievous rebuke and some punishment, open warning was given to all the fellows, none to be so hardy as to give me his voice at that election. And yet for all those open threats, the good father himself privily procured that I should even then be chosen fellow; but the election being done, he made countenance of great discontent thereat. This good man's goodness and fatherly discretion used towards me that one day shall never be out of my remembrance all the days of my life. And for the same cause have I put it here in this small record of learning. For, next God's providence, surely that day was, by that good father's means, *Dies natalis* to me, for the whole foundation of the poor learning I have, and of all the furtherance that hitherto elsewhere I have obtained.

"This his goodness stood not still in one or two, but flowed abundantly over all that College, and broke out

also to nourish good wits in every part of that University: whereby, at his departing thence, he left such a company of fellows and scholars in St. John's College, as can scarce be found now in some whole University; who either for divinity, on the one side or other, or for civil service to their Prince and country, have been, and are yet to this day, notable ornaments to this whole realm. Yea, St. John's did then so flourish, as Trinity College, that princely house now, at the first erection, was but *Colonia deducta* out of St. John's, not only for their master, fellows, and scholars, but also, which is more, for their whole both order of learning and discipline of manners. And yet to this day it never took master but such as was bred up before in St. John's; doing the duty of a good colonia to her metropolis, as the ancient cities in Greece, and some yet in Italy at this day, are accustomed to do.

" St. John's stood in this state until those heavy times and that grievous change that chanced *anno* 1553, when more perfect scholars were dispersed from thence in one month than many years can rear up again. For when the Boar of the Wood had passed the seas, and fastened his foot again in England, not only the two fair groves of learning in England were either cut up by the root, or trodden down to the ground and wholly went to wrack, but the young spring there, and everywhere else, was pitifully nipt and over-trodden by very beasts, and also the fairest standers of all were rooted up and cast into the fire, to the great weakening, even at this day, of Christ's church in England, both for religion and learning.

" And what good could chance then to the Universities, when some of the greatest, though not of the

wisest, nor best learned, nor best men neither, of that side, did labour to persuade that ignorance was better than knowledge; which they meant not for the laity only, but also for the greatest rabble of their spirituality, what other pretence openly soever they made. And therefore did some of them at Cambridge, whom I will not name openly, cause hedge-priests, fetched out of the country, to be made fellows in the University; saying in their talk privily, and declaring by their deeds openly, 'that he was fellow good enough for their time, if he could wear a gown and a tippet comely, and have his crown shorn fair and roundly, and could turn his portess and pie readily.' Which I speak, not to reprove any order either of apparel or other duty that may be well and indifferently used, but to note the misery of that time, when the benefits provided for learning were so foully misused.

"And what was the fruit of this seed? Verily judgment in doctrine was wholly altered; order in discipline very sore changed; the love of good learning began suddenly to wax cold; the knowledge of the tongues (in spite of some that therein had flourished) was manifestly contemned; and so the way of right study purposely perverted; the choice of good authors, of malice confounded; old sophistry—I say not well,—not old, but that new rotten sophistry—began to beard and shoulder logic in her own tongue; yea, I know that heads were cast together and counsel devised, that Duns, with all the rabble of barbarous questionists, should have dispossessed of their place and room Aristotle, Plato, Tully, and Demosthenes, whom good Mr. Redman, and those two worthy stars of that University, Mr. Cheke and Mr. Smith, with their scholars, had brought to flourish as

notably in Cambridge as ever they did in Greece and in Italy; and for the doctrine of those four, the four pillars of learning, Cambridge then giving place to no University, neither in France, Spain, Germany, nor Italy. Also in outward behaviour, then began simplicity in apparel to be laid aside, courtly gallantness to be taken up; frugality in diet was privately misliked, town-going to good cheer openly used; honest pastimes joined with labour left off in the fields; unthrifty and idle games, haunted corners, occupied in the nights; contention in youth nowhere for learning; factions in the elders everywhere for trifles.

"All which miseries at length by God's providence had their end the 16th November, 1558;* since which time the young spring hath shot up so fair, as now there be in Cambridge again many good plants (as did well appear at the Queen's Majesty's late being there), which are like to grow to mighty great timber, to the honour of learning and great good of their country, if they may stand their time as the best plants there were wont to do, and if some old dotterel trees, with standing over nigh them, and dropping upon them, do not either hinder or crook their growing; wherein my fear is the less, seeing so worthy a justice of an oyer† hath the present oversight of that whole chase, who was himself some time, in the fairest spring that ever was there of learning, one of the forwardest young plants in all that worthy college of St. John's; who now by grace is grown to such greatness, as, in the temperate and quiet shade of his wisdom (next the providence of God and goodness of one), in

* The day of Queen Elizabeth's accession to the throne.

† Sir William Cecil, Principal Secretary of State, and Chancellor of the University of Cambridge.

these our days, religion for sincerity, learning for order and advancement, the commonwealth for happy and quiet government, have, to the great rejoicing of all good men, specially reposed themselves."

Returning now to the question, whether one, a few, many, or all ought to be followed, he recommends that, in every separate kind of learning, we should imitate only a few, and chiefly some one great writer, the most eminent in that particular department. "And now," he proceeds, "to know what author doth meddle only with some one piece and member of eloquence, and who doth perfectly make up the whole body, I will declare, as I can call to remembrance, the goodly talk that I have had oftentimes of the true difference of authors with that gentleman of worthy memory, my dearest friend and teacher of all the little poor learning I have, Sir John Cheke."

Style (*genus dicendi*), he divides into the poetical, the historical, the philosophical, and the oratorical.

The poetical style, again, he considers may be subdivided into the comic, the tragic, the epic, and the lyric (*melicum*). Of these distinctions he gives the following illustrations:

"When Mr. Watson in St. John's College, at Cambridge, wrote his excellent tragedy of 'Absalon,' Mr. Cheke, he, and I, for that part of true imitation, had many pleasant talks together, in comparing the precepts of Aristotle and Horace de Arte Poëticâ, with the examples of Euripides, Sophocles, and Seneca. Few men in writing of tragedies in our days have shot at this mark. Some in England, more in France, Germany, and Italy also, have written tragedies in our time, of which not one, I am sure, is able to abide the true touch

of Aristotle's precepts and Euripides's examples, save only two that ever I saw, Mr. Watson's 'Absalon,' and Georgius Buchananus's 'Jepthe.'

"One man in Cambridge,* well liked of many, but best liked of himself, was many times bold and busy to bring matters upon stages which he called tragedies. In one, whereby he looked to win his spurs, and whereas many ignorant fellows fast clapped their hands, he began the *protasis* with *trochæis octonariis*: which kind of verse as it is but seldom and rare in tragedies, so is it never used save only in *epitasi*, when the tragedy is highest and hottest, and full of greatest troubles. I remember full well what Mr. Watson merrily said unto me of his blindness and boldness in that behalf; although otherwise there passed much friendship between them. Mr. Watson had another manner of care of perfection, with a fear and reverence of the judgment of the best learned; who to this day would never suffer yet his 'Absalon' to go abroad, and that only, because *in locis paribus Anapæstus* is twice or thrice used instead of *Iambus*—a small fault, and such a one as perchance would never be marked, no neither in Italy nor France. This I write, not so much to note the first, or praise the last, as to leave in memory of writing for good example to posterity, what perfection in any time was most diligently sought for in like manner in all kind of learning, in that most worthy college of St. John's in Cambridge."

Upon this last anecdote, however, Mr. Upton has the following note: "What is here assigned could never be the true reason of Mr. Watson's refusing to publish his tragedy, so accurately composed as to be put in competition with Buchanan's 'Jepthe.' For why did he not

* It is not known to whom our author here alludes.

correct what he judged amiss? a thing so very easy for him to do. Though what if we say there was no fault in this respect committed, nor any need of alteration? For excepting the sixth place, the *Anapest* has free liberty to stand where it pleases, and that for this reason, especially with the comedians, as Hephæstion has observed." [The import of the passage quoted from Hephæstion is, that the comedians introduce the *Anapest* in this indiscriminate or irregular manner, that their verse may the more resemble the ease and freedom of ordinary conversation.] "I suppose the true reason hereof was, either an unwillingness to appear in print, or a dissatisfaction with the times, he being one of the ejected bishops."

The historical style is divided by Ascham into that suited for journals (*diaria*), that for annals, that for commentaries, and that for history properly so called.

The philosophical he divides into continuous discourse (*sermo*), and dialogue (*contentio*).

The oratorical he divides into the plain (*humile*), the moderately elevated (*mediocre*), and the sublime.

Having laid down these general principles, he proceeds: "Now, to touch more particularly which of those authors that be now most commonly in men's hands will soon afford you some piece of eloquence; and what manner a piece of eloquence; and what is to be liked and followed; and what to be misliked and eschewed in them; and how some again will furnish you fully withal; rightly and wisely considered, somewhat I will write, as I have heard Sir John Cheke many times say.

"The Latin tongue, concerning any part of pureness of it, from the spring to the decay of the same, did not endure much longer than is the life of a well-aged man, scarce one hundred years from the time of the last Scipio

Africanus and Lælius to the empire of Augustus. And it is notable that Velleius Paterculus writeth of Tully, 'How that the perfection of eloquence did so remain only in him, and in his time, as before him were few which might much delight a man, or, after him, any worthy admiration, but such as Tully might have seen, and such as might have seen Tully.' And good cause why; for no perfection is durable. Increase hath a time, and decay likewise; but all perfect ripeness remaineth but a moment, as is plainly seen in fruits, plums, and cherries; but more sensibly in flowers, as roses and such like, and yet as truly in all greater matters. For what naturally can go no higher, must naturally yield and stoop again.

"Of this short time of pureness of the Latin tongue, for the first forty years of it, and all the time before, we have no piece of learning left, save Plautus and Terence, with a little rude imperfect pamphlet of the elder Cato.* And as for Plautus, except the schoolmaster be able to make wise and wary choice, first, in propriety of words, then in framing of phrases and sentences, and chiefly in choice of honesty of matter, your scholar were better to play than learn all that is in him. But surely, if judgment for the tongue, and direction for the manners, be wisely joined with the diligent reading of Plautus, then truly Plautus, for that pureness of the Latin tongue in Rome, when Rome did most flourish in well-doing, and so thereby in well-speaking also, is such a plentiful storehouse for common eloquence in mean matters, and all private men's affairs, as the Latin tongue for that respect hath not the like again. When I remember the

* One would imagine Mr. Ascham had never seen Victorius's edition of "Cato, de Re Rusticâ;" since he here calls it a little rude imperfect pamphlet. And yet it was printed by Rob. Stephens, anno 1543.—*Upton.*

worthy time of Rome, wherein Plautus did live, I must needs honour the talk of that time, which we see Plautus doth use.

" Terence is also a storehouse of the same tongue for another time, following soon after; and although he be not so full and plentiful as Plautus is, for multitude of matters and diversity of words, yet his words be chosen so purely, placed so orderly, and all his stuff so neatly packed up and wittily compassed in every place, as by all wise men's judgment 'He is counted the cunninger workman, and to have his shop, for the room that is in it, more finely appointed, and trimlier ordered, than Plautus's is.'

" Three things chiefly, both in Plautus and Terence, are to be specially considered, the matter, the utterance, the words, the metre. The matter in both is altogether within the compass of the meanest men's manners, and doth not stretch to any thing of any great weight at all; but standeth chiefly in uttering the thoughts and conditions of hard fathers, foolish mothers, unthrifty young men, crafty servants, subtle bawds, and wily harlots; and so, is much spent in finding out fine fetches, and packing up pelting matters, such as in London commonly come to the hearing of the masters of Bridewell. Here is base stuff for that scholar that should become hereafter either a good minister in religion, or a civil gentleman in service of his prince and country (except the preacher do know such matters to confute them), when ignorance surely in all such things were better for a civil gentleman than knowledge. * * * *

" For word and speech Plautus is more plentiful, and Terence more pure and proper. And for one respect, Terence is to be embraced above all that ever wrote in

this kind of argument: because it is well known by good record of learning, and that by Cicero's own witness, that some comedies bearing Terence's name were writ by worthy Scipio and wise Lælius; and namely 'Heautontimorumenos,' and 'Adelphi.' And therefore, as oft as I read those comedies, so oft doth sound in mine ear the pure fine talk of Rome, which was used by the flower of the worthiest nobility that ever Rome bred. Let the wisest man, and best learned that liveth, read advisedly over the first scene of 'Heautontimorumenos,' and the first scene of 'Adelphi,' and let him considerately judge whether it is the talk of a servile stranger born, or rather even that wise eloquent speech which Cicero in Brutus doth so lively express in Lælius. And yet nevertheless, in all this good propriety of words and pureness of phrases which be in Terence, you must not follow him always in placing of them; because for the metre sake, some words in him sometimes be driven awry, which require a straighter placing in plain prose; if you will form, as I would you should do, your speech and writing to that excellent perfectness, which was only in Tully, or only in Tully's time."

The subjects both of Latin and of English versification are then treated of at considerable length; but upon the latter especially, our author's observations are not of much value. "This matter," he says, "maketh me gladly remember my sweet time spent at Cambridge, and the pleasant talk which I had oft with Mr. Cheke and Mr. Watson of this fault, not only in the old Latin poets, but also in our new English rhymers at this day." He complains that Englishmen in general will not "acknowledge and understand rightfully our rude beggarly rhyming, brought first into Italy by Gothis and

Huns, when all good verses, and all good learning too, were destroyed by them, and after carried into France and Germany, and at last received into England by men of excellent wit indeed, but of small learning, and less judgment in that behalf." To "follow rather the Goths in rhyming than the Greeks in true versifying," he considers to be "to eat acorns with swine, when we may freely eat wheat bread among men." "Indeed," he adds, "Chaucer, Thomas Norton of Bristol, my Lord of Surrey, Tho. Phaer, and other gentlemen, in translating Ovid, Palingenius*, and Seneca, have gone as far, to their great praise, as the copy they followed could carry them." He thinks, however, that these good wits would have done better had they not contented themselves with that barbarous and rude rhyming. The English tongue, he maintains, although not very well adapted for hexameter verse, would receive the iambic measure as naturally as either Greek or Latin. As examples of the revival, in modern times, of the ancient measures, he instances the translation of the fourth book of the Æneid into English by the Earl of Surrey, and that of the Odyssey into Spanish by Gonsalvo Perez; "yet neither of them," he says, "hath fully hit perfect and true versifying." Afterwards, adverting to the circumstance of English scholars having been beforehand with those of Italy, "first in spying out, then in seeking to amend this fault in learning," he introduces the following passage: "And here, for my pleasure, I purpose a little by the way to play and sport with my master

* Marcellus Palingenius, a native of Ferrara, a Latin poet of the sixteenth century, the author of a poem entitled Zodiacus Vitæ, in twelve books, first published in 1536. A translation of the first six books of this poem was published in 1561, by Barnaby Googe, which is now an exceedingly rare book.

Tully, from whom commonly I am never wont to dissent. He himself, for this point of learning, in his verses doth halt a little, by his leave: he could not deny it, if he were alive; nor those defend him now that love him best. This fault I lay to his charge, because once it pleased him, though somewhat merrily, yet over-uncourteously, to rail upon poor England, objecting both extreme beggary and mere barbarousness unto it, writing thus unto his friend Atticus: 'There is not one scruple of silver in that whole isle; or any one that knoweth either learning or letter.'

"But now, Master Cicero, blessed be God and his son Jesus Christ, whom you never knew, except it were as it pleased him to enlighten you by some shadow, as covertly in one place you confess, saying, 'Veritatis tantùm umbram consectamur,' (we follow only the shadow of truth) as your master Plato did before you; blessed be God, I say, that sixteen hundred years after you were dead and gone, it may truly be said, that for silver there is more comely plate in one city of England than is in four of the proudest cities in all Italy, and take Rome for one of them: and for learning, beside the knowledge of all learned tongues and liberal sciences, even your own books, Cicero, be as well read, and your excellent eloquence is as well liked and loved, and as truly followed in England at this day, as it is now, or ever was since your own time, in any place of Italy, either at Arpinum where you was born, or else at Rome where you was brought up. And a little to brag with you, Cicero, where you yourself, by your leave, halted in some point of learning in your own tongue, many in England at this day go straight up, both in true skill and right doing therein."

Having remarked the small difference "either in propriety of words, or framing of the style," that is to be found between the familiar epistles of Cicero, and those written to him by his friends, he makes the following fine observation: "These men and Tully lived all in one time, were like in authority, not unlike in learning and study, which might be just causes of this their equality in writing. And yet surely they neither were indeed, nor yet were counted in men's opinions, equal with Tully in that faculty. And how is the difference hid in his Epistles? Verily, as the cunning of an expert seaman in a fair calm fresh river doth little differ from the doing of a meaner workman therein; even so, in the short cut of a private letter, where matter is common, words easy, and order not much diverse, small show of difference can appear. But where Tully doth set up his sail of eloquence in some broad deep argument, carried with full tide and wind of his wit and learning, all others may rather stand, and look after him, than hope to overtake him, what course soever he hold, either in fair or foul."

"Four men only," he continues, "when the Latin tongue was full ripe, be left unto us who in that time did flourish, and did leave to posterity the fruit of their wit and learning—Varro, Sallust, Cæsar, and Cicero." Of course the statement is confined to prose writers. The remainder of the treatise is occupied with a review of the characteristics and merits of the first three of these chief Roman classics.

Of Varro, he says, among other things, "His books of husbandry are much to be regarded and diligently to be read, not only for the propriety, but also for the plenty of good words in all country and husband men's affairs, which cannot be had by so good authority out of any

other author, either of so good a time, or of so great learning, as out of Varro. And yet, because he was four-score years old when he wrote those books, the form of his style there, compared with Tully's writing, is but even the talk of a spent old man: whose words commonly fall out of his mouth, though very wisely, yet hardly and coldly, and more heavily also, than some ears can well bear, except only for age and authority's sake; and perchance, of a rude and country argument, of purpose and judgment he rather used the speech of the country than the talk of the city."

"Sallust," he says, "is a wise and worthy writer; but he requireth a learned reader and a right considerer of him. My dearest friend and best master that ever I had or heard in learning, Sir John Cheke (such a man, as if I should live to see England breed the like again, I fear I should live over long), did once give me a lesson for Sallust, which, as I shall never forget myself, so is it worthy to be remembered of all those that would come to perfect judgment of the Latin tongue. He said that Sallust was not very fit for young men to learn out of him the purity of the Latin tongue; because he was not the purest in propriety of words, nor choicest in aptness of phrases, nor the best in framing of sentences; and therefore is his writing, said he, neither plain for the matter, nor sensible for men's understanding.

"'And what is the cause thereof, Sir?' quoth I. 'Verily,' said he, 'because in Sallust's writing is more art than nature, and more labour than art, and in his labour also too much toil; as it were, with an uncontented care to write better than he could—a fault common to very many men. And therefore he doth not express the matter lively, and naturally with common speech, as

you see Xenophon doth in Greek; but it is carried and driven forth artificially after too learned a sort, as Thucydides doth in his Orations.'

"'And how cometh it to pass,' said I, 'that Cæsar and Cicero's talk is so natural and plain, and Sallust's writings so artificial and dark, when all they three lived in one time?'

"'I will freely tell you my fancy herein,' said he.

"'Surely Cæsar and Cicero, beside a singular prerogative of natural eloquence given unto them by God, both two by use of life were daily orators among the common people, and greatest counsellors in the Senate-house; and therefore gave themselves to use such speech as the meanest should well understand, and the wisest best allow; following carefully that good counsel of Aristotle, *Loquendum, ut multi; sapiendum, ut pauci.* (Speak like the many; think like the few.)

"'Sallust was no such man, neither for will to goodness, nor skill by learning, but ill given by nature, and made worse by bringing up; spent the most part of his youth very misorderly in riot and letchery, in the company of such who, never giving their mind to honest doing, could never inure their tongue to wise speaking. But at the last, coming to better years, and buying wit at the dearest hand (that is, by long experience of the hurt and shame that cometh of mischief), moved by the counsel of them that were wise, and carried by the example of such as were good, he first fell to honesty of life, and after to the love of study and learning, and so became so new a man, that Cæsar, being Dictator, made him prætor in Numidia, where he, absent from his country, and not inured with the common talk of Rome, but shut up in his study, and bent wholly upon reading, did

write the history of the Romans. And for the better accomplishing of the same, he read Cato and Piso in Latin, for gathering of matter and truth, and Thucydides in Greek, for the ordering of his history and furnishing of his style."'

The use of old words, Sir John Cheke is further made to say, is not the greatest cause of Sallust's roughness and darkness. "Read Sallust and Tully advisedly together, and in words you shall find small difference. Yea, Sallust is more given to new words than to old; though some writers say the contrary." He then gives some examples, after which he continues: "I could be long in reciting many such like, both old and new words in Sallust: but in very deed, neither oldness nor newness of words maketh the greatest difference betwixt Sallust and Tully; but, first, strange phrases made of good Latin words, but framed after the Greek tongue, which be neither choicely borrowed of them, nor properly used by him; then, a hard composition, and crooked framing of his words and sentences; as a man would say, English talk placed and framed outlandish-like."

Having concluded his report of this discourse of Sir John Cheke's, our author proceeds: "Some men perchance will smile, and laugh to scorn this my writing, and call it idle curiosity, thus to busy myself in picking about these small points of grammar, not fit for my age, place, and calling to trifle in. I trust that man, be he never so great in authority, never so wise and learned, either by other men's judgment or his own opinion, will yet think that he is not greater in England than Tully was at Rome; nor yet wiser nor better learned than Tully was himself: who at the pitch of threescore years, in the midst of the broil betwixt Cæsar and Pompey,

when he knew not whither to send wife and children, which way to go, where to hide himself; yet in an earnest letter, among his earnest counsels for those heavy times, concerning both the common state of his country and his own private affairs, he was neither unmindful nor ashamed to reason at large, and learn gladly of Atticus, a less point of grammar than these be, noted of me in Sallust: as whether he should write, *ad Piræea*, *in Piræea*, or *in Piræeum*, or *Piræeum*, *sine prepositione*. And in those heavy times he was so careful to know this small point of grammar, that he addeth these words, 'Si hoc mihi ζήτημα persolveris, magnâ me molestiâ liberâris.' [If you will resolve me this question, you will deliver me from what gives me great annoyance.]

"If Tully at that age, in that authority, in that care for his country, in that jeopardy for himself, and extreme necessity of his dearest friends, being also the prince of eloquence himself, was not ashamed to descend to these low points of grammar in his own natural tongue; what should scholars do? yea, what should any man do, if he do think well-doing better than ill-doing, and had rather be perfect than mean, sure than doubtful, to be what he should be indeed, and not seem what he is not, in opinion? He that maketh perfectness in the Latin tongue his mark, must come to it by choice and certain knowledge, and not stumble upon it by chance and doubtful ignorance. And the right steps to reach unto it be these, linked thus orderly together,—aptness of nature, love of learning, diligence in right order, constancy with pleasant moderation, and always to learn of them that be best; and so shall you judge as they that be wisest. And these be those rules which worthy

Master Cheke did impart unto me concerning Sallust, and the right judgment of the Latin tongue."

We give entire the few but pregnant sentences in which the style of Cæsar is characterised:

"Cæsar, for that little of him that is left unto us, is like the half face of a Venus, the other part of the head being hidden, the body and the rest of the members unbegun; yet so excellently done by Apelles, as all men may stand still to maze and muse upon it; and no man step forth with any hope to perform the like.

"His seven books 'De Bello Gallico,' and three 'De Bello Civili,' be written so wisely for the matter, so eloquently for the tongue, that neither his greatest enemies could ever find the least note of partiality in him (a marvellous wisdom of a man, namely writing of his own doings), nor yet the best judges of the Latin tongue, nor the most envious lookers upon other men's writings can say any other but all things be most perfectly done by him.

"Brutus, Calvus, and Calidius, who found fault with Tully's fulness in words and matter, and that rightly, for Tully did both confess it and mend it, yet in Cæsar they neither did, nor could, find the like, or any other fault.

"And therefore thus justly I may conclude of Cæsar, that whereas in all others the best that ever wrote in any time or in any tongue, in Greek (I except neither Plato, Demosthenes, nor Tully), some fault is justly noted, in Cæsar only could never yet fault be found.

"Yet nevertheless, for all this perfect excellency in him, yet it is but one member of eloquence, and that but of one side neither; when we must look for that example to follow, which hath a perfect head, a whole

body, forward and backward, arms, and legs, and all."

Here the work ends, at least in the form in which we have it. It will be observed, that of the four writers, whose characters the author had proposed to draw, only three are formally treated of; and that there are no observations on Declamation, the last of the six ways which he had enumerated for the learning of tongues. Yet, in his preface, as we have seen, he appears to state distinctly that the work was finished. Considering the circumstances and manner of its publication, it is not unlikely that the concluding portion of the treatise, though really prepared by Ascham, may have disappeared in the interval of several years that elapsed before his papers were sent to the press.

OF EDUCATION.

TO MASTER SAMUEL HARTLIB.

BY JOHN MILTON.

MASTER HARTLIB,

I am long since persuaded that to say and do aught worth memory and imitation, no purpose or respect should sooner move us than simply the love of God and of mankind. Nevertheless, to write now the reforming of education, though it be one of the greatest and noblest designs that can be thought on, and for the want whereof this nation perishes, I had not yet at this time been induced but by your earnest entreaties and serious conjurements; as having my mind diverted for the present in the pursuance of some other assertions, the knowledge and the use of which cannot but be a great furtherance both to the enlargement of truth and honest living with much more peace. Nor should the laws of any private friendship have prevailed with me to divide thus or transpose my former thoughts; but that I see those aims, those actions which have won you with me the esteem of a person sent hither by some good providence from a far country to be the occasion and incitement of great good to this island, and as I hear you have obtained the same repute with men of most approved wisdom and some of the highest authority among us, not to mention the learned correspondence which you hold in foreign parts,

and the extraordinary pains and diligence which you have used in this matter both here and beyond the seas, either by the definite will of God so ruling, or the peculiar sway of nature, which also is God's working. Neither can I think, that so reputed and so valued as you are, you would, to the forfeit of your own discerning ability, impose upon me an unfit and over-ponderous argument; but that the satisfaction which you profess to have received from those incidental discourses which we have wandered into hath pressed and almost constrained you into a persuasion, that what you require from me in this point I neither ought nor can in conscience defer beyond this time both of so much need at once and so much opportunity to try what God hath determined. I will not resist, therefore, whatever it is either of divine or human obligement that you lay upon me; but will forthwith set down in writing, as you request me, that voluntary idea, which hath long in silence presented itself to me, of a better education, in extent and comprehension far more large, and yet of time far shorter and of attainment far more certain, than hath been yet in practice. Brief I shall endeavour to be; for that which I have to say assuredly this nation hath extreme need should be done sooner than spoken. To tell you, therefore, that I have benefited herein among old renowned authors I shall spare; and to search what many modern Januas and Didactics more than ever I shall read have projected, my inclination leads me not. But if you can accept of these few observations which have flowered off, and are, as it were, the burnishing of many contemplative years altogether spent in the search of religious and civil knowledge, and such as pleased you so well in the relating, I here give you them to dispose of.

The end then of learning is, to repair the ruins of our first parents by regaining to know God aright, and out of that knowledge to love him, to imitate him, to be like him, as we may the nearest by possessing our souls of true virtue, which being united to the heavenly grace of faith makes up the highest perfection. But because our understanding cannot in this body found itself but on sensible things, nor arrive so clearly to the knowledge of God and things invisible as by orderly coming over the visible and inferior creature, the same method is necessarily to be followed in all discreet teaching. And seeing every nation affords not experience and tradition enough for all kind of learning, therefore we are chiefly taught the languages of those people who have at any time been most industrious after wisdom; so that language is but the instrument conveying to us things useful to be known. And though a linguist should pride himself to have all the tongues that Babel cleft the world into, yet if he have not studied the solid things in them as well as the words and lexicons, he were nothing so much to be esteemed a learned man as any yeoman or tradesman competently wise in his mother-dialect only. Hence appear the many mistakes which have made learning generally so unpleasing and so unsuccessful. First, we do amiss to spend seven or eight years merely in scraping together so much miserable Latin and Greek as might be learned otherwise easily and delightfully in one year. And that which casts our proficiency therein so much behind is our time lost in too oft idle vacancies given both to schools and universities; partly in a preposterous exaction, forcing the empty wits of children to compose themes, verses, and orations, which are the acts of ripest judg-

ment, and the final work of a head filled by long reading and observing with elegant maxims and copious invention. These are not matters to be wrung from poor striplings, like blood out of the nose, or the plucking of untimely fruit; besides the ill habit which they get of wretched barbarizing against the Latin and Greek idiom with their untutored Anglicisms, odious to be read, yet not to be avoided without a well-continued and judicious conversing among pure authors, digested, which they scarce taste. Whereas, if after some preparatory grounds of speech by their certain forms got into memory they were led to the praxis hereof in some chosen short book lessoned thoroughly to them, they might then forthwith proceed to learn the substance of good things and arts in due order, which would bring the whole language quickly into their power. This I take to be the most rational and most profitable way of learning languages, and whereby we may best hope to give account to God of our youth spent herein. And for the usual method of teaching arts, I deem it to be an old error of universities, not yet well recovered from the scholastic grossness of barbarous ages, that instead of beginning with arts most easy (and those be such as are most obvious to the sense), they present their young unmatriculated novices at first coming with the most intellective abstractions of logic and metaphysics; so that they having but newly left those grammatic flats and shallows where they stuck unreasonably to learn a few words with lamentable construction, and now on the sudden transported under another climate, to be tossed and turmoiled with their unballasted wits in fathomless and unquiet deeps of controversy, do for the most part grow into hatred and contempt of learning,

mocked and deluded all this while with ragged notions and babblements, while they expected worthy and delightful knowledge; till poverty or youthful years call them importunately their several ways, and hasten them, with the sway of friends, either to an ambitious and mercenary, or ignorantly zealous divinity: some allured to the trade of law, grounding their purposes not on the prudent and heavenly contemplation of justice and equity, which was never taught them, but on the promising and pleasing thoughts of litigious terms, fat contentions, and flowing fees: others betake them to state affairs with souls so unprincipled in virtue and true generous breeding, that flattery, and court-shifts, and tyrannous aphorisms, appear to them the highest points of wisdom, instilling their barren hearts with a conscientious slavery, if, as I rather think, it be not feigned: others, lastly, of a more delicious and airy spirit, retire themselves, knowing no better, to the enjoyments of ease and luxury, living out their days in feast and jollity, which indeed is the wisest and safest course of all these, unless they were with more integrity undertaken. And these are the errors, and these are the fruits of mis-spending our prime youth at the schools and universities, as we do, either in learning mere words, or such things chiefly as were better unlearnt.

I shall detain you no longer in the demonstration of what we should not do, but strait conduct you to a hill-side, where I will point you out the right path of a virtuous and noble education; laborious indeed at the first ascent, but else so smooth, so green, so full of goodly prospect and melodious sounds on every side, that the harp of Orpheus was not more charming. I doubt not but ye shall have more ado to drive our

dullest and laziest youth, our stocks and stubs, from the infinite desire of such a happy nurture, than we have now to haul and drag our choicest and hopefullest wits to that asinine feast of sow-thistles and brambles which is commonly set before them as all the food and entertainment of their tenderest and most docible age. I call, therefore, a complete and generous education, that which fits a man to perform justly, skilfully, and magnanimously, all the offices both private and public of peace and war. And how all this may be done between twelve and one-and-twenty, less time than is now bestowed in pure trifling at grammar and sophistry, is to be thus ordered:—

First, to find out a spacious house and ground about it fit for an academy, and big enough to lodge one hundred and fifty persons, whereof twenty or thereabout may be attendants, all under the government of one who shall be thought of desert sufficient, and ability either to do all, or wisely to direct and oversee it done. This place should be at once both school and university, not needing a remove to any other house of scholarship, except it be some peculiar college of law or physic where they mean to be practitioners; but as for those general studies which take up all our time from Lilly to the commencing, as they term it, master of art, it should be absolute. After this pattern as many edifices may be converted to this use as shall be needful in every city throughout this land, which would tend much to the increase of learning and civility everywhere. This number, less or more, thus collected, to the convenience of a foot-company or interchangeably two troops of cavalry, should divide their day's work into three parts as it lies orderly—their studies, their exercise, and their diet.

For their studies: first, they should begin with the chief and necessary rules of some good grammar, either that now used, or any better; and while this is doing, their speech is to be fashioned to a distinct and clear pronunciation, as near as may be to the Italian, especially in the vowels. For we Englishmen being far northerly do not open our mouths in the cold air wide enough to grace a southern tongue, but are observed by all other nations to speak exceeding close and inward; so that to smatter Latin with an English mouth is as ill a hearing as law French. Next, to make them expert in the usefullest points of grammar, and withal to season them and win them early to the love of virtue and true labour, ere any flattering seducement or vain principle seize them wandering, some easy and delightful book of education should be read to them, whereof the Greeks have store, as Cebes, Plutarch, and other Socratic discourses; but in Latin we have none of classic authority extant, except the two or three first books of Quintilian, and some select pieces elsewhere. But here the main skill and groundwork will be, to temper them such lectures and explanations upon every opportunity as may lead and draw them in willing obedience, inflamed with the study of learning and the admiration of virtue, stirred up with high hopes of living to be brave men and worthy patriots, dear to God and famous to all ages: that they may despise and scorn all their childish and ill-taught qualities, to delight in manly and liberal exercises; which he who hath the art and proper eloquence to catch them with, what with mild and effectual persuasions, and what with the intimation of some fear, if need be, but chiefly by his own example, might in a short space gain them to an incre-

dible diligence and courage, infusing into their young breasts such an ingenuous and noble ardour as would not fail to make many of them renowned and matchless men. At the same time, some other hour of the day, might be taught them the rules of arithmetic, and, soon after, the elements of geometry, even playing, as the old manner was. After evening repast till bed-time, their thoughts would be best taken up in the easy grounds of religion and the story of scripture. The next step would be to the authors of agriculture, Cato, Varro, and Columella, for the matter is most easy; and if the language is difficult so much the better; it is not a difficulty above their years. And here will be an occasion of inciting and enabling them hereafter to improve the tillage of their country, to recover the bad soil, and to remedy the waste that is made of good; for this was one of Hercules' praises. Ere half these authors be read, (which will soon be with plying hard and daily,) they cannot choose but be masters of an ordinary prose: so that it will be then seasonable for them to learn in any modern author the use of the globes and all the maps, first with the old names and then with the new; or they might then be capable to read any compendious method of natural philosophy; and at the same time might be entering into the Greek tongue, after the same manner as was before prescribed for the Latin; whereby the difficulties of grammar being soon overcome, all the historical physiology of Aristotle and Theophrastus are open before them, and, as I may say, under contribution. The like access will be to Vitruvius, to Seneca's Natural Questions, to Mela, Celsus, Pliny, or Solinus. And having thus past the principles of arithmetic, geometry, astronomy, and geography, with a general compact of

physics, they may descend in mathematics to the instrumental science of trigonometry, and from thence to fortification, architecture, enginery, or navigation. And in natural philosophy they may proceed leisurely from the history of meteors, minerals, plants, and living creatures, as far as anatomy. Then also in course might be read to them out of some not tedious writer the institution of physic; that they may know the tempers, the humours, the seasons, and how to manage a crudity, which he who can wisely and timely do is not only a great physician to himself and to his friends, but also may at some time or other save an army by this frugal and expenseless means only, and not let the healthy and stout bodies of young men rot away under him for want of this discipline, which is a great pity, and no less a shame to the commander. To set forward all these proceedings in nature and mathematics, what hinders but that they may procure, as oft as shall be needful, the helpful experiences of hunters, fowlers, fishermen, shepherds, gardeners, apothecaries; and in other sciences, architects, engineers, mariners, anatomists, who doubtless would be ready, some for reward and some to favour such a hopeful seminary. And this would give them such a real tincture of natural knowledge as they shall never forget, but daily augment with delight. Then also those poets which are now counted most hard will be both facile and pleasant, Orpheus, Hesiod, Theocritus, Aratus, Nicander, Oppian, Dionysius; and, in Latin, Lucretius, Manilius, and the rural part of Virgil.

By this time years and good general precepts will have furnished them more distinctly with that act of reason which in ethics is called proairesis, that they may

with some judgment contemplate upon moral good and evil. Then will be required a special reinforcement of constant and sound endoctrinating, to set them right and firm, instructing them more amply in the knowledge of virtue and the hatred of vice, while their young and pliant affections are led through all the moral works of Plato, Xenophon, Cicero, Plutarch, Laertius, and those Locrian remnants; but still to be reduced in their nightward studies wherewith they close the day's work under the determinate sentence of David or Solomon, or the evangels and apostolic scriptures. Being perfect in the knowledge of personal duty, they may then begin the study of economics. And either now or before this, they may have easily learned at any odd hour the Italian tongue. And soon after, but with wariness and good antidote, it would be wholesome enough to let them taste some choice comedies, Greek, Latin, or Italian; those tragedies also that treat of household matters, as Trachiniæ, Alcestis, and the like. The next remove must be to the study of politics; to know the beginning, end, and reasons of political societies, that they may not, in a dangerous fit of the commonwealth, be such poor shaken uncertain reeds, of such a tottering conscience as many of our great councillors have lately shown themselves, but steadfast pillars of the state. After this they are to dive into the grounds of law and legal justice, delivered first and with best warrant by Moses, and, as far as human prudence can be trusted, in those extolled remains of Grecian lawgivers, Lycurgus, Solon, Zaleucus, Charondas; and thence to all the Roman edicts and tables, with their Justinian; and so down to the Saxon and common laws of England and the statutes. Sundays also and every evening may now be understandingly spent in the highest matters of theology

and church history, ancient and modern: and ere this time at a set hour the Hebrew tongue might have been gained, that the scriptures may be now read in their own original; whereto it would be no impossibility to add the Chaldee and the Syrian dialect. When all these employments are well conquered, then will the choice histories, heroic poems, and attic tragedies of stateliest and most regal argument, with all the famous political orations, offer themselves; which, if they were not only read, but some of them got by memory, and solemnly pronounced with right accent and grace, as might be taught, would endue them even with the spirit and vigour of Demosthenes or Cicero, Euripides or Sophocles. And now, lastly, will be the time to read with them those organic arts which enable men to discourse and write perspicuously, elegantly, and according to the fitted style of lofty, mean, or lowly. Logic, therefore, so much as is useful, is to be referred to this due place, with all her well-couched heads and topics, until it be time to open her contracted palm into a graceful and ornate rhetoric taught out of the rule of Plato, Aristotle, Phalereus*, Cicero, Hermogenes, Longinus. To which poetry would be made subsequent, or indeed rather precedent, as being less subtile and fine, but more simple, sensuous, and passionate; I mean not here the prosody of a verse, which they could not but have hit on before among the rudiments of grammar, but that sublime art which in Aristotle's Poetics, in Horace, and the Italian commentaries of Castlevetro, Tasso, Mazzoni, and others, teaches what the laws are of a true epic poem, what of a dramatic, what of a lyric, what decorum is, which is the grand master-piece to observe.

* Demetrius, called Phalereus.—*Editor.*

This would make them soon perceive what despicable creatures our common rhymers and play-writers be; and show them what religious, what glorious and magnificent use might be made of poetry, both in divine and human things. From hence, and not till now, will be the right season of forming them to be able writers and composers in every excellent matter, when they shall be thus fraught with an universal insight into things: or whether they be to speak in parliament or council, honour and attention would be waiting on their lips. There would then appear in pulpits other visages, other gestures, and stuff otherwise wrought, than we now sit under, oft-times to as great a trial of our patience as any other that they preach to us. These are the studies wherein our noble and our gentle youth ought to bestow their time in a disciplinary way from twelve to one-and-twenty, unless they rely more upon their ancestors dead than upon themselves living. In which methodical course it is so supposed they must proceed by the steady pace of learning onward, as at convenient times for memory's sake to retire back into the middle ward, and sometimes into the rear of what they have been taught, until they have confirmed and solidly united the whole body of their perfected knowledge, like the last embattling of a Roman legion. Now will be worth the seeing what exercises and recreations may best agree and become those studies.

THEIR EXERCISE.

The course of study hitherto briefly described is, what I can guess by reading, likest to those ancient and famous schools of Pythagoras, Plato, Isocrates, Aristotle, and such others, out of which were bred such

a number of renowned philosophers, orators, historians, poets, and princes, all over Greece, Italy, and Asia, besides the flourishing studies of Cyrene and Alexandria. But herein it shall exceed them, and supply a defect as great as that which Plato noted in the commonwealth of Sparta. Whereas that city trained up their youth most for war, and these in their academies and Lycæum all for the gown, this institution of breeding which I here delineate shall be equally good both for peace and war. Therefore, about an hour and a half ere they eat at noon should be allowed them for exercise, and due rest afterwards; but the time for this may be enlarged at pleasure, according as their rising in the morning shall be early. The exercise which I commend first is the exact use of their weapon, to guard, and to strike safely with edge or point. This will keep them healthy, nimble, strong, and well in breath; is also the likeliest means to make them grow large and tall, and to inspire them with a gallant and fearless courage, which being tempered with seasonable lectures and precepts to make them of true fortitude and patience, will turn into a native and heroic valour, and make them hate the cowardice of doing wrong. They must be also practised in all the locks and gripes of wrestling, wherein Englishmen are wont to excel, as need may often be in fight to tug, to grapple, and to close. And this perhaps will be enough wherein to prove and heat their single strength. The interim of unsweating themselves regularly, and convenient rest before meat, may both with profit and delight be taken up in recreating and composing their travailed spirits with the solemn and divine harmonies of music heard or learned, either whilst the skilful organist plies his

grave and fancied descant in lofty fugues, or the whole symphony with artful and unimaginable touches adorn and grace the well-studied chords of some choice composer; sometimes the lute or soft organ-stop waiting on elegant voices either to religious, martial, or civil ditties, which, if wise men and prophets be not extremely out, have a great power over dispositions and manners to smooth and make them gentle from rustic harshness and distempered passions. The like also would not be unexpedient after meat, to assist and cherish nature in her first concoction, and send their minds back to study in good tune and satisfaction. Where having followed it under vigilant eyes until about two hours before supper, they are, by a sudden alarum or watch-word, to be called out to their military motions, under sky or covert according to the season, as was the Roman wont; first on foot, then, as their age permits, on horseback to all the art of cavalry; that having in sport, but with much exactness and daily muster, served out the rudiments of their soldiership in all the skill of embattling, marching, encamping, fortifying, besieging, and battering, with all the helps of ancient and modern stratagems, tactics, and warlike maxims, they may, as it were out of a long war, come forth renowned and perfect commanders in the service of their country. They would not then, if they were trusted with fair and hopeful armies, suffer them for want of just and wise discipline to shed away from about them like sick feathers, though they be never so oft supplied; they would not suffer their empty and unrecruitable colonels of twenty men in a company to quaff out or convey into secret hoards the wages of a delusive list and miserable remnant; yet in the meanwhile to be overmastered with a score or two

of drunkards, the only soldiery left about them, or else to comply with all rapines and violences. No, certainly, if they knew aught of that knowledge which belongs to good men or good governors, they would not suffer these things. But to return to our own institute. Besides these constant exercises at home, there is another opportunity of gaining experience to be won from pleasure itself abroad: in those vernal seasons of the year, when the air is calm and pleasant, it were an injury and sullenness against nature not to go out and see her riches and partake in her rejoicing with heaven and earth. I should not, therefore, be a persuader to them of studying much then, after two or three years that they have well laid their grounds, but to ride out in companies with prudent and staid guides to all the quarters of the land, learning and observing all places of strength, all commodities of building and of soil for towns and tillage, harbours, and ports for trade. Sometimes taking sea as far as to our navy, to learn there also what they can in the practical knowledge of sailing and sea-fight. These ways would try all their peculiar gifts of nature, and if there were any secret excellence among them, would fetch it out and give it fair opportunities to advance itself by, which could not but mightily redound to the good of this nation, and bring into fashion again those old admired virtues and excellencies with far more advantage now in this purity of Christian knowledge. Nor shall we then need the monsieurs of Paris to take our hopeful youth into their slight and prodigal custodies, and send them over back again transformed into mimics, apes, and kekshose. But if they desire to see other countries at three or four and twenty years of age, not to learn principles but to en-

large experience and make wise observation, they will by that time be such as shall deserve the regard and honour of all men where they pass, and the society and friendship of those in all places who are best and most eminent. And perhaps then other nations will be glad to visit us for their breeding, or else to imitate us in their own country.

Now, lastly, for their diet there cannot be much to say, save only that it would be best in the same house; for much time else would be lost abroad, and many ill habits got; and that it should be plain, healthful, and moderate, I suppose is out of controversy.

Thus, Mr. Hartlib, you have a general view in writing, as your desire was, of that which at several times I had discoursed with you concerning the best and noblest way of education; not beginning, as some have done, from the cradle, which yet might be worth many considerations, if brevity had not been my scope. Many other circumstances also I could have mentioned, but this, to such as have the worth in them to make trial, for light and direction may be enough. Only I believe that this is not a bow for every man to shoot in that counts himself a teacher, but will require sinews almost equal to those which Homer gave Ulysses; yet I am withal persuaded that it may prove much more easy in the assay than it now seems at distance, and much more illustrious: howbeit not more difficult than I imagine, and that imagination presents me with nothing but very happy, and very possible according to best wishes, if God have so decreed, and this age have spirit and capacity enough to apprehend.

SOME THOUGHTS CONCERNING EDUCATION.

BY JOHN LOCKE.

THIS work, of which the following is an analysis, was published in 1690, and was written, as is stated in the Epistle Dedicatory to Edward Clarke, of Chipley, Esq., some years earlier. The *Thoughts on Education* are extremely discursive and irregular, the same topics being treated of in different places. The author of the following analysis has endeavoured to connect these disjointed parts, and to arrange the materials so as to give more method and unity to the whole; but the opinions given are strictly those of Locke, and though excellent on the whole, they are not set forth as to be altogether implicitly adopted; the progress made in medical science, for instance, has shown that his recommendation of extreme hardship in the early education of the body is altogether erroneous. The original is divided into sections; but from the cause alluded to, it has been found impossible to indicate those divisions in the Analysis. Wherever the words of Locke have been used, they are placed between marks of quotation.

By education Locke understands the training, not of the mind only, a limitation too apt to be given to the sense of the word, but of the body also; and ac-

cordingly the first, and perhaps not the least valuable, portion of his treatise is devoted to a consideration of the important question of physical health, as it relates to children. And in the first place, he strongly reprehends that over-tenderness in mothers which, in their anxiety to shield their offspring from every risk, induces them to clothe them too warmly, and otherwise to confine them at an early age, so that a certain degree of present security is obtained at the expense of a double danger from every subsequent exposure; whereas experience teaches us that the body may be inured by habit to any sufferance of cold or heat. He recommends that a child should be early accustomed to slight clothing, that as soon as his hair grows the use of caps should be discontinued, that he should have his feet washed every day in cold water, and even that his shoes "be made so as to leak water;" which, with some other practises of a similar kind, calculated to strengthen the frame and render it independent, he enforces with much earnestness, deprecating the opposition of the mistress and the maid. With respect to diet, it should be exceedingly plain, and flesh meat should make no part of it during the first three or four years of life. No kindness towards children should induce us to mix up with their food any seasoning that may occasion an early delicacy in the palate, but good dry bread should be made the test of their appetite, which will insure that they do not eat oftener than nature really demands. Amongst the Romans it was a reproach to a man if he indulged in more than one regular meal a day; and a great part of the diseases among Englishmen may be imputed to gross feeding, especially in the article of flesh-meat. So far is Locke from counselling regularity

in meals, that he advises the time of eating to be continually varied,—on this principle, that regularity begets expectation in the stomach, and the disappointment of that expectation must needs produce petulance and ill temper in the child, as often as it occurs; whilst on the contrary a varied system may be as easily established by habit, and will be accompanied with more independence. To prevent children from drinking more than enough, he advises that no draught be permitted them between meals that is not prefaced by a piece of dry bread; and we are to remember that hunger and thirst are as much the creatures, and therefore the subjects, of habit, as any other of our propensities. There is no matter in which servants are more narrowly to be watched than this of diet, for they are but too prone to relieve themselves of trouble and inconvenience by indulging the desires of children. Fruit is generally condemned as unwholesome, and children are led to regard it, like our first parents, with the greater longing, from the rigorous law which restrains them from it. But there is not sufficient discrimination used on this head, for many fruits are not only innocuous, but highly conducive to health, when eaten in their season, and with that moderation without which no food is wholesome. Such fruits are strawberries, cherries, gooseberries, currants, apples, and pears, which should however not be eaten alone, but with bread, and are best at breakfast-time. Sweetmeats of every kind are to be, without exception, banished from the nursery-table. One only desire is to be indulged without restraint,—this is the inclination to sleep; sleep being as necessary to a child as food itself: and with respect to early hours,

the importance of which is universally admitted, this may be observed, that although it may be impossible, in after life, always to maintain the rule in this respect, yet by keeping it inviolate in the child, you may so far provide against future excess that sitting up shall always remain to him a species more or less of discomfort and uneasiness. The younger the child, the more needful the sleep; but there is an age when the desire for sleep is apt to slide into a fault, and any evidences of a lazy disposition must be followed by prompt correction. He must be reduced by degrees to eight hours, which may be considered the proper term of rest for adults. Children ought not to be awakened in a rude manner, but gradually, and with kind words; they experience a certain pain in waking, which should not be added to by noise, especially of a kind to frighten them. The time of sleep is carefully to be observed, but not the manner; and a child should be accustomed to various conditions in his rest; his bed—so that it be always hard—should be made sometimes in one fashion, and sometimes in another, that he may not be unprepared for the vicissitudes of travelling and the many changes that he is certain to encounter in life. Locke is of opinion that physic should never be administered by way of prevention, but only by way of cure, and that costiveness, against which it is usually applied, may be overcome simply by the determined will of the person suffering, and by a habit of regularity in "soliciting nature." He sums up his recommendations on the subject of health in these words:—"Plenty of open air, exercise, and sleep, plain diet, no wine or strong drink, and very little or no physic, not

too warm and strait cloathing, especially the head and feet kept cold, and the feet often used to cold water, and exposed to wet."

The health of the body being duly provided for, the mind next claims our care; and here it will be proper to give, in Locke's own words, the proposition with which he opens this part of his subject. It conveys the very pith of his doctrine.

"As the strength of the body lies chiefly in being able to endure hardships, so also does that of the mind. And the great principle and foundation of all virtue and worth lies in this, that a man is able to deny himself his own desires, cross his own inclinations, and purely follow what reason directs as best, though the appetite lean the other way." (Sect. 33.)

Here, as before, the over-fondness of the mother is the first subject of observation, as it is the first barrier in the way of the child's improvement. It is not unusual even to find some little perverse tricks rather admired than reproved, as being thought not unbecoming the innocence of childhood. Whether this be the result of tenderness or of a weak judgment in the parents, it is equally reprehensible, and fails not to produce consequences in the end which the parents themselves are the first to complain of, though they choose to be ignorant of the share they had in the mischief. The amusement which children afford to grown-up people, occasions them too often to be treated like play-things. Their humours are indulged for the sake of their lively spirits, and they are not to be crossed lest they change the scene and turn entertainment into trouble. Also because they are presumed to be in-

capable of any great vices at so early an age, people consider it quite harmless to allow them a full license for any little improprieties they may have a mind to, forgetting that the proportion of the fault to the age is the same, and that, by indulgence then, they will come to arrogate to themselves the same privilege when a riper age shall bring with it desires and passions no longer innocent. This culpable negligence of the mind and disposition of the child during its tenderest years, when every impression made is of such lasting consequence, is the more surprising, when we consider how much judicious management and elaborate attention are bestowed even on dogs and horses, whose temper and character are wont to be taken notice of from the earliest period, and checked and guided in a thousand ways with a view to their future utility and well being. It is only our own offspring that we neglect in this point, and "having made them ill children, we foolishly expect they should be good men." But there is commonly a worse evil than neglect in early education; this is what Locke calls "the downright teaching them vice;" and it is seen chiefly in those moments when nothing perhaps is further from the minds of the parents than the injury they are committing. In the way of pastime, children are taught to strike those around them, and to take a childish revenge on anything which gives them pain, because forsooth their little hands can do no harm: but is not this teaching them a principle of violence, innocent indeed in its present results, but pregnant with the seeds of future vice? In the same way the foundations of pride are laid, and nothing is thought more harmless than to trick a child out in finery, and fondle it the more for its pretty looks. Lying

a composition, by which one pleasure is proposed in lieu of another, and so no habit of self-denial gained. Pleasures are not to be denied, but they should always be made to seem the result of a general state of esteem with the parents, and not the reward of a particular act. And yet there are kinds both of rewards and punishments, that may safely be employed; in short, it is the mind, not the body, that is to be worked upon; esteem and affection on the one hand, shame and disgrace on the other, are the materials to be used to this end. We are to seize upon those sensibilities which nature has given, and early mould them to the purposes of virtue. "Make them in love with the pleasure of being well thought on." "Shame them out of their faults." The principle of reputation, though it is not the true ground of virtue—which is our obedience to God,—yet is that which comes nearest to it, and is especially the proper guide for children. With respect to the natural gaiety of children, it is to be encouraged, and any noise or inconvenience it may occasion cheerfully to be submitted to, in consideration of the health and spirits which its indulgence tends to bestow. It is a great fault in education to burden children's minds with rules and precepts about their conduct, which are seldom understood, and therefore soon forgotten; and it is still more unreasonable to visit with punishment the infraction of such rules. Teach rather by example, and let not too much depend on memory. "Make but few laws, but see they be well observed when once made." The grand business is to form habits, and this can only be done by patient and continual practice, and all those attempts at compendious methods of instruction by forms and regulations are only so many plans of escape, so

many evasions of the duty devolving on us as parents or governors. One great advantage attending a practical system is, that frequent observation brings us acquainted with the peculiar genius of the child, which cannot too soon be discovered, whether with a view to the formation of character or the choice of congenial pursuits. "Observe what the native stock is." "Every one's natural genius should be carried as far as it can." Affectation may sometimes, though not often, be seen growing in children, and is then the result of some perversion in the education. They should not be too much perplexed with lectures about good-breeding, which will more readily come to them when it comes as the graceful outward consequence of a moral refinement than when it is made the subject of rules and directions. Affectation is often the result of possessing the form before the spirit of good-breeding. As far at least as a proper confidence, grounded in self-possession, may go towards perfecting the manners, they should be helped; and dancing should be taught early with this view. But there is nothing graceful or becoming that has not its foundation in the mind; therefore, be that the fortress in every case—begin every operation there, and for the rest—"Never trouble yourself about those faults which you know age will cure." When children are scolded before company for faults in behaviour, it not unfrequently happens that the parents are the real culprits, who have not, really, sufficiently attended to the correction of those faults, and who lay the blame on the children only to divert it from themselves. The choice of servants is a matter of no slight importance in the education of a family. Folly, vulgarity, or dishonesty in a servant will be sufficient to counteract and destroy

the effects of the best system. Either servants, therefore, must thoroughly be free from every suspicion, which is almost impossible, or children must be sedulously restricted from their company. To create in them a preference for the company of their parents, everything in the shape of pleasure should proceed from the latter.

The question, whether a private or a public education be most replete with advantage, is one of difficulty, from the mixture of good and evil that is in both. The greater innocence which recommends a domestic education is usually thought to be counterbalanced by that ignorance of the world which accompanies it, whilst the bustle and spirit of a public school are tainted with violence, deceit, or false pride. In considering this question, it must be remembered, that "Virtue is harder to be got than a knowledge of the world." The only real value that any quality of the mind, or of the body either, can fairly pretend to, is the degree of its subserviency to the cause of virtue. Violence is no virtue, though courage is; and modesty and steadiness are no faults, though a soft and tame disposition is one, and one which cannot be too much censured. The true advantage of confidence is the power which it gives for the preservation of honour and morality: how then can confidence answer this, its only legitimate purpose, when it is the offspring of a vicious experience? Nor is roughness courage, nor cunning wisdom, but rather the fictitious substitutes of the virtues they personate, and are so far from helping to form them, that they act in direct opposition to their spirit. To lay the foundation of character in assurance and self-sufficiency, and then to labour at a superstructure of modesty and virtue, is to begin at the wrong end; but the basis being in virtue, there is

no weight of other materials, whether for ornament or utility, which it will not nobly support. Inasmuch as a private education, then, is more conducive to the early establishment of right moral principles, it is to be preferred to a public education; and with respect to those drawbacks that are used to be complained of, there are none which may not be removed by proper methods. A boy, who is instructed by a tutor at home, should have every opportunity afforded him of mixing in company, and be encouraged to act and converse as his own reason dictates to him, and not be too much fettered by prescription, nor teased with directions in matters of trifling consequence; he should be left as much to his own discretion as may be compatible with the objects of his education. "But," says Locke, in concluding this head, "if after all it shall be thought by some that the breeding at home has too little company, and that at ordinary schools not such as it should be for a young gentleman, I think there might be ways found out to avoid the inconveniences on the one side and the other." *

That maxim of the ancients—"*Maxima debetur pueris reverentia*" (the utmost reverence is due to children)—is of great wisdom, and teaches us to forbear in their sight from every act or word that can possibly offend that sense of truth and propriety which is native to them. If this respect is wanting on the part of the parents, what respect can they hope to secure from their children? Punishment and rebuke must seem to

* He does not anywhere suggest the means of remedying the "inconveniences" on the side of *public* education. Nor does he observe that a private domestic education, as here developed, is, in the majority of cases, impossible on account of the expense.

proceed from a just displeasure, or they lose their power; but with what show of justice can a father reprove his son for a fault, which he does not scruple to commit himself? Or if the commission of such fault be vindicated as the privilege of manhood, with what additional force will not the example operate, when we consider that it is in the nature of children to anticipate the age of maturity, and to affect manly ways? Instead of thus turning this natural disposition into a course of mischief by supplying it with an ill direction, rather let it be made serviceable to a good purpose. This will be accomplished, if those actions and occupations which are deemed proper for the child are made to appear the privilege of a superior age; by which means they will be rendered the objects of ambition and desire, instead of being regarded—as they too often are—with feelings of aversion. Whatever has been said against the use of the rod, may be equally urged against harsh language, which can scarcely ever do good, and must often do harm. It forfeits the child's respect, it forfeits his affection, and, what is worse, by frequency loses its own power. A child readily distinguishes between the language of passion and that of reason, and soon comes to despise the former; and when this is the case, there immediately results an inferiority on the part of the parent or teacher, which is entirely subversive of the necessary influence and authority. For one fault only should children be chastised, and this is obstinacy; yet here only when all other means of correction have been tried in vain; and when it is done, let it if possible be so contrived that the shame, and not the pain, of the rod shall be the severest part of the punishment. How reluctantly our author recommends this last alternative, the following

senteneess will show:—"This is certain, if it does no good, it does great harm."—There must be—"a nice study of children's tempers and weighing their faults well, before we come to this sort of punishment."—"We must be sure it *is* obstinacy."—"Nor is that hastily to be interpretated obstinacy or wilfulness, which is the natural product of their age or temper."*

Although obedience ought to be sufficiently secured by a sense of duty, and a veneration of the parent, early instilled, yet are children to be reasoned with. Here again advantage is to be taken of nature; for children take a pride in being treated as rational beings, and this pride is to be cherished and made a handle to turn them into virtuous courses. The meaning of what they are directed to do should, as far as possible, be explained to them, that they may be impressed with this general confidence—that what is required of them is just and reasonable, and that those to whom they yield

* Furthermore, Locke is of opinion that when corporal punishment becomes necessary, it should never be carried into effect on the instant, lest it be—or even lest it *seem* to be—the result of passion, but should be solemnly deferred; also that some discreet servant should have the execution of the punishment, and not the parent, though the latter should be present and give the order for it: this is to provide against the possibility of a personal aversion on the part of the child for its father or mother. But, here and in every other place where Locke mentions corporal punishment, there is evinced the same hesitation and irresolution. The necessity is still to be so "urgent," and the case one of such "extremity," that we can hardly tell whether his mind was finally made up as to the propriety of the remedy in any case. Even when he winds himself up to his purpose, he does not seem to be capable of a positive, unqualified affirmation. "Then, *perhaps*, it will be fit to do it so that the child should not quickly forget it." Lastly, he declares that in the event of flogging, once fairly tried, failing to effect the object of improvement, it must not be persevered in; if it does not produce that result, "it will look more like the fury of an enraged enemy than the good-will of a compassionate friend." "I know not what more he (the father) can do, but *pray for him*."

obedience really love them and are seeking their good. In the selection of a tutor, no care, no trouble, no expense, compatible with the station of the parent, should be spared; extent of acres and a large patrimony are nothing in comparison with the fortunate choice of a tutor. The difficulty is great, but the pains worth taking.* The matter of learning or scholarship is far from being the primary qualification; the first consideration should be—his moral character, because his first duty will be to protect the moral character of his pupil, of which he cannot be the fit conservator who has no care for his own. The next consideration is his breeding, and knowledge of the world; the former ought to be such as to impart civility and elegance to the manners of his pupil, for without breeding all the other acquirements are obscured and depreciated; the latter ought to prepare him for society, by giving him a due foreknowledge of what he may expect, the temptations with which his path will be strewed, the deceitful practices of men, and the full extent of good and evil, that the youth may not come forth into the living world only fortified with the rusty equipage of a dead language. The most dangerous stage in human life is the passage from the boy to the man, and it is to smooth this passage and make it safe and easy, that the tutor's services are most valuable. As, sooner or later, the

* The following anecdote, which Locke relates, after Montaigne, affords a striking illustration, by contrast, of one of the advantages which this age of news and newspapers possesses over its predecessors. It will be evident to the reader what was "*wanted*" in this case:—

"The learned Castalio was fain to make trenchers at Basil, to keep himself from starving, when his (Montaigne's) father would have given any money for such a tutor for his son, and Castalio have willingly embraced such an employment upon very reasonable terms; *but this was for want of intelligence.*" (§ 91.)

grievous evils that exist in the world must come to the knowledge of every man, it is proper that they should be gradually disclosed to him, so that they may not bewilder him with their variety or mislead him by their novelty, when he comes to be thrown in contact with them. Concealment can answer no good purpose, and by being allied to deception must lower the credit of his education generally, in the eyes of the young man himself, and so only the more strongly incline him to suspect the value of what he has learnt, the justice of the authority to which he has submitted, and the sincerity of his teachers; on whom he will be prone to revenge himself by plunging without restraint into those vicious pleasures, the existence of which they were so unwisely careful to guard from his knowledge. To accomplish the ends here proposed, the tutor must be, as far as possible, a gentleman and a man of the world, and must possess an influence over the mind of his pupil as much by virtue of his personal address and his general experience, as by his learning and acquirements. To secure his authority the better, he should be thought to be invested with more power than he indeed has,—the power of bodily punishment for example, which he should not in reality be allowed. But above all, if you mean your son to respect his tutor, you must—"be sure to use him with great respect yourself, and cause all your family to do so too; for you cannot expect your son should have any regard for one whom he sees you, or his mother, or others slight."

With respect to scholarship, as was before said, it is a consideration—but one of secondary importance. An ordinary skill will be sufficient to direct the mind at first, and to set it fairly in the course it ought to take,

and instruction of any kind can do little more; eminence cannot be attained through the medium of a teacher, but only by the force of unsolicited nature, which is to say genius, and he who is endowed with genius requires little besides. Those to whom much learning is needful or profitable, will therefore of themselves be sufficiently impelled towards the attainment of it. But, in ordinary cases, it is rather exemption from ignorance than depth of science, that is to be desired for a youth, and least of all should we consent to barter away any portion of moral good for value received in Latin and Greek, whatever that may amount to. Therefore a tutor, without being deeply versed in books, may well enough guide a young pupil, since at least he may contrive always to be in advance of him. But for other learning no smattering will suffice, for—"he will never be able to set another right in the knowledge of the world, and above all in breeding, who is a novice in them himself."

It was before observed, that the rigour of parental authority when the son grows up is as unseasonable then, as the tenderness and indulgence granted to an earlier age. The distance and reserve, which may be necessary at first to establish authority, ought to wear off by degrees as reason and discretion increase, and to give way to familiarity and confidence, till the ties of friendship succeed to the colder obligations of filial duty. There should be a reciprocation of kindnesses between father and son, a mutual confidence, a mutual love, which cannot be whilst any stiffness or formality remains; and this must be begun by the father, who should not hesitate to open his heart to his son when years of discretion have rendered him worthy of that communication. "Propose matters to him familiarly,

and ask his advice; and when he ever lights on the right, follow it as his; and if he succeeds well, let him have the commendation."

It is impossible to give rules in education that shall always serve, for as there are not two characters alike, so there are not two cases where the same method of treatment will be attended with the same results. The peculiar temper of the child must be industriously noted, and this at times when he is least under restraint, for so his natural disposition will peep out, and you will be able to form your plans accordingly. There will always be some predominant qualities, good and evil, and these will, more or less, for ever belong to him; but, by this timely knowledge of them, the latter may be so modified and the former so strengthened, as to increase tenfold the value of the general stock. One general truth may be confidently affirmed, viz., that the love of liberty—nay more, the love of dominion—is implanted in all breasts, and comes into operation with the very first emotions of the mind. It will never be necessary to watch the actions of a child to ascertain this; it may safely be taken for granted, and ought to be added to the account in every scheme for his education. Besides this, and accompanying it, is the sense of property and the desire of possession. Almost all the injustice and contention which we witness spring from these roots. They are weeds which rapidly fasten themselves into the character; but, with determination, may be mastered and thrown out in the season of childhood. Children are to have nothing conceded to their fancy, but only to their wants. If they have been rightly educated, they will have been taught to know that their good is sought in every thing that is done for them, and with this confidence

they will learn to leave all matters to the judgment of their guardians. Therefore, although their satisfaction should always as much as possible be considered, any fanciful or wilful preference of one thing to another must be treated as an unallowable movement of caprice, and withstood accordingly. They will thus be taught a habit of suppressing their desires in the outset, and become their own moderators by a virtue founded in necessity. Here, as before, great care must be taken that all these calculations be not overthrown by the intervention of foolish servants. There is one case, however, wherein fancy must be indulged; this is in the choice of games, and the materials of recreation. Here all should be free and unrestricted, for recreation is not good without there be a delight in it, and delight cannot be always amenable to reason, but must depend mostly on fancy. Also the child's particular bent and disposition, which it is so desirable to know, will best be made apparent by leaving his actions free at these moments. But no violence must be suffered at any time to pass uncorrected, and if one child exhibits a disposition to domineer over another, it must be made the subject of immediate reprehension. On the other side, complaints and accusations of one against another should be discouraged, for sufferance without redress is better than an indulged sensitiveness. If the aggressor is to be reprimanded, it should not be in the presence of the aggrieved, but alone. Encourage a contention amongst children who shall surpass the rest in liberality, that by a practice of parting freely with what they have, good-will and good-nature may become habits of the mind. But above all let the principles of justice be inculcated from the first dawn of reason, and every

defection from it—how trifling soever the matter—be noticed and rectified; but not without discriminating between the acts of a perverse will, and the results of mere ignorance. The first evidences of the spirit of injustice, and the same of all considerable vices, should be met with a show of wonder, as if the thing were new and inconceivable; and it is to be remarked likewise with respect to all such vices, that they should never be named, till such time as they come unfortunately under notice; children should not be warned against a fault which they have not yet committed; they should be presumed incapable of it; to talk of it is to set them thinking of it, and this sort of contemplation familiarises the mind with ideas which it might not otherwise have entertained at all. Crying is either from pain or from wilfulness; in either case it is not to be suffered, but promptly checked. Crying, because something is refused, is obstinately disputing the justice of the refusal, and is, therefore, tantamount to disobedience, and to be treated so. For the other sort of crying, the indulgence of it fosters sensibility and effeminacy, and should for that reason be discountenanced as a fault, as much as the other. Fear is not wholly a defect, nor courage in every extent a merit. No one braves danger for its own sake, and if we see a person voluntarily running into danger, it is either by the impulse of some passion, such as rage, pride, and the like; or through ignorance of what he goes to encounter; therefore in manifestations of this kind in children, we are to analyze the moving principle, and satisfy ourselves how far it be genuine. A proper courage is not confined to the objects of personal danger, but is prepared to meet poverty, disgrace, &c.; unless it reaches to this, it is not complete.

The foundation of fear is the sense of pain; therefore the best provision that can be made against a timid habit of mind, is an early training to endurance and self-possession under suffering; and one of the best arguments against the use of the rod is, that bodily pain should not be—as by the rod it is—recognised as the greatest punishment, but boys should be rather taught to despise such terrors, and to look upon shame as the only real thing terrible. A boy who should seem to have an undue concern for his personal safety might be sometimes designedly tried—but only when there was perfect good humour—and a blow given him such as he might bear without complaint; he might in this manner get an ambition to be thought brave, and a new sort of reputation would open to him.

On the subject of cruelty to animals, which seems so extraordinary a vice for children, and yet is so often found in them, Locke delivers some sentiments deserving of the attention of all classes, which we give in his own words.

"They (sect. 116.) who delight in the suffering and destruction of inferior creatures, will not be apt to be very compassionate or benign to those of their own kind. Our practice takes notice of this in the exclusion of butchers from juries of life and death.* Children should from the beginning be bred up in an abhorrence of killing or tormenting any living creatures. * * * * And truly, if the preservation of all mankind, as much as in him lies, were every one's persuasion, as indeed it is every one's duty, and the true principle to regulate our religion, politics, and morality by, the world would be much quieter, and better natured than it is."—And

* This, however, is a mistake of Locke's. The law makes no such exclusion, and never did.—*Editor.*

again—"This pleasure that they take to put anything in pain that is capable of it, I cannot persuade myself to be any other than a foreign and introduced disposition, a habit borrowed from custom and conversation. People teach children to strike, and laugh, when they hurt, or see harm come to others; and they have the examples of most about them to confirm them in it. All the entertainment and talk of history is of nothing almost but fighting and killing; and the honour and renown that is bestowed on conquerors (who for the most part are but the great butchers of mankind) further mislead growing youth, who by this means come to think slaughter the laudable business of mankind, and the most heroic of virtues. By these steps unnatural cruelty is planted in us; and what humanity abhors, custom reconciles and recommends to us, by laying it in the way to honour."

Besides cruelty to animals, there is another species of cruelty, or something like it, which must be put down as summarily as the other. Children must not be suffered to treat servants with insolence, as if they were inferior creatures, undeserving of the same kind of civility and consideration which is paid to others; this vanity is to be rooted out, or it will lead in after life to the worst acts of injustice and oppression.

Amongst the various natural propensities which ought to be made use of to further the objects of education, curiosity is one. The inquiries of children are to be hearkened to with patience and attention, and no satisfaction to be withheld from them. Consider well what they seek to know, and enlighten them on that particular point, not throwing in more information than they can pleasantly receive; thus they will be pleased

by such attention, and gratified with their success, and tempted to new questions. Never laugh at their mistakes. But, more than all, never put them off with evasive answers; they soon distinguish between truth and falsehood, and still sooner learn to act on the difference. We are to consider children in the same situation as we should be placed in, if we were thrown on a foreign shore, where everything was new to us, and every trifling object a matter of wonder and curiosity. This reflection should teach us to regard no inquiries of children as too trivial or unimportant. Nor need we be ashamed of the company and conversation of children, from whom a man of reflection may often derive advantages which he would not elsewhere receive. "The native and untaught suggestions of inquisitive children do often offer things that may set a considering man's thoughts on work; and I think that there is frequently more to be learned from the unexpected questions of a child, than the discourses of men, who talk in a road."

One of the worst defects in the disposition is that listlessness sometimes observable, and which, in some cases, is perhaps constitutional. If a child seems to be addicted to this habit, we should carefully observe whether it be universal in him, or only connected with particular times and objects. If during play, or at other times, he evinces an interest in anything, be sure to cultivate that interest, and by awakening his mind more and more, you may get him at last to regard all objects with a greater degree of earnestness. A little timely ridicule may not be amiss in such a case. If he is incapable of applying his mind to a task, set him to some bodily labour in which you can, by overlooking, secure

that he works: this will teach him the power of application, which will thence become more easy of acquirement in the exercises of the mind. If a child has so uncontrollable a love of play as to be altogether unable to settle to study, let him have the tables turned upon him, —that is to say, let the play be enjoined as a task, the study be—at best—only permitted: the love of freedom and self-will will then convert the play into a species of burden, the study into a covetable relief; he will become so surfeited with the one as to fly to the other with desire. In short, so much depends on association and circumstance, that there is hardly any evil which may not be brought into disfavour and thus stopped, nor any good which may not be invested with attraction, and rendered an object of spontaneous pursuit. Children should not be restricted in the article of playthings, nor in the choice of them; but only a few of the principal kind should be purchased for their use, and for the rest they should be encouraged to exercise their own ingenuity. The confession of faults will be a matter of difficulty at first, and it will be necessary to give a premium for candour by withholding punishment where the error is acknowledged. There must be instilled a jealousy of reputation, and more disgrace must be attached to deception and prevarication than to any faults they can cover. If a child makes an excuse, however, in a case where you are unable to prove that it is false, it must be allowed to pass without any evidence of suspicion; it must seem to be implicitly relied on.

A true notion of the Divine Power ought to be implanted in his mind as early as possible; but scrupulously avoid bewildering him with ideas on this subject which he cannot properly comprehend; a few simple genera-

lities are amply sufficient to create the proper devotional feeling. Discourses concerning spirits should be forborne, as they tend to weaken the mind, and to produce timidity and nervousness. The fear of the dark is not natural, but acquired; and to dispel it, we must point out the use of the dark, and show that it is made by God for our good as well as the light, that it affords us its kind inducement to sleep, and has nothing in it to harm us. If you have educated your son aright, you will have rendered it unnecessary to inculcate good-nature by precept; it will form a fundamental part of his character, and mix in all his actions, sweetening them and making him beloved.

Breeding, or manners, was before noticed; but there are different species of ill-breeding which deserve to be particularised. These are either on the side of deficiency or of excess of confidence. For the first, variety of company is the only cure. For the latter, it comprises these several kinds, viz., roughness, contempt, censoriousness (including raillery and contradiction), and captiousness. Raillery has generally the excuse of wit, and yet it is no more to be commended than the rest; for even where it carries no ill-nature with it, nay, where it is designed to convey some compliment, it is so liable to miscarriage, and so easily misunderstood, that it never can have so much propriety as plainer language. Contradiction and interruption embitter the pleasures of society. If we are in the right, it ought to be satisfaction enough to us; and to prove that another is in the wrong is sufficiently humiliating to him, without adding the injury of intolerance. Nor will the best intentions excuse heat and impatience; if we wish to serve a friend by advice, we best convince him

of our sincerity by displaying a temperate and considerate regard. One other fault in manners is superfluous ceremony; this is never acceptable, and creates that uneasiness which it is the part of good breeding to remove. True politeness does not reside in this or that fashion of doing a thing, a particular bow, or a certain scrape, but only in the heart. "And in good earnest," says Locke in conclusion, "if I were to speak my mind freely, so children do nothing out of obstinacy, pride, and ill-nature, it is no great matter how they put off their hats or make legs."

The system of keeping boys at Latin and Greek for eight or ten years at a school, from which they return as ignorant as they went of all other matters, and in most cases soon forget even that which they have learnt, is not patiently to be endured. The virtue of the child is the first grand object; subsidiary to this, and valuable only as contributing to it, is learning, which is not worth the having if it is to be acquired to the exclusion of every other species of mental cultivation. With respect to studies, and the means of facilitating them, the method hinted at before deserves to be considered. "I have always had a fancy that learning might be made a play and recreation to children."* It was observed, that a relish or distaste might be imparted artificially for almost anything; now this may be done not only in the manner there suggested, viz., by employing one passion against another, but by more direct expedients. Let a

* He mentions further, in confirmation of this view, that, "amongst the Portuguese, it is so much a fashion and emulation, amongst their children, to learn to read and write, that they cannot hinder them from it. They will learn it one from another, and are as intent on it *as if it were forbidden them.*"

ball of iron, for example, be contrived, with spaces, and different letters painted on them; or dice, with letters in the same manner instead of the points; and let some good games be devised that may teach the alphabet in this way. And to sharpen his desire to play at such games, let him suppose that they properly belong to those older than himself. "I know a person who, by pasting on the six vowels on the six sides of a die, and the remaining eighteen consonants on the sides of three other dice, has made this a play for his children, that he shall win who, at one cast, throws most words on these four dice; whereby his eldest son, yet in coats, has played himself into spelling, with great eagerness, and without once having been chid for it, or forced to it."—"Besides these, twenty other plays might be invented, depending on letters."

The Fables of Æsop, as containing matter at once easy and entertaining, and inculcating, in a familiar way, a quantity of memorable wisdom, may be the best book to put into a child's hands as soon as he can read; and the accompaniment of pictures is on every account to be recommended. It will add much to the utility of these lessons, if he be encouraged to relate the stories he has read to other people, and to converse about them. And let these two rules always be observed; first, that the lesson shall be over before the attention has ceased, so that he goes away with an appetite; and second, that he shall always have the satisfaction of feeling that he has learnt something which he did not know before. To Æsop's Fables should be added the Lord's Prayer, the Creed, and the Ten Commandments, which he should learn by heart, without waiting to be able to read them. But the promiscuous reading of the Bible

will do harm, not good, while he is still unable to comprehend the abstruse and recondite meanings with which it abounds. Certain portions should be selected for him, especially such stories as he will be able to read with some degree of pleasure as well as instruction; and to this let there be added all such remarkable moral truths, and rules of conduct, as it may be important to fix in his mind. When he comes to be entered in writing, he should not be taught to hold his pen and shape the letters all at once, but the former part of the action should be perfected first.—"I think the Italian way, of holding the pen between the thumb and the forefinger alone, may be best."—Learning to draw will improve his writing-hand, and introduce him to an art highly useful as well as ornamental, which saves much description, and in many cases furnishes the means of definition, where language can hardly suffice; especially if he is intended to travel. Short-hand, whether for dispatch or secrecy, is not less useful, but should not be learned till after a good writing-hand is formed. French and Latin are both necessary to a gentleman's education, and, but for prejudice, might be taught in the same manner, that is to say, by *vivâ voce* instruction. For this purpose the tutor should be able to converse in Latin with tolerable fluency and accuracy; and a much better acquaintance might be made thus with the general character of the language, than by the ordinary drudgery. Let every rule be learnt by the practical application of it, and not by tedious, unillustrated precepts, which cannot make half the impression. Nor is the method of teaching by rote to be depreciated, or deemed superficial; for language is the creature of

custom, not of law; and practice, therefore, not theory, should communicate it. "And I fain would have any one name to me that tongue that any one can learn, or speak as he should do, by the rules of grammar. Languages were made not by rules or art, but by accident, and the common use of the people. And he that speaks them well has no other rule but that; nor anything to trust to, but his memory, and the habit of speaking after the fashion learned from those that are allowed to speak properly, which, in other words, is only to speak by rote." It is not intended by this that books of grammar have no use; but that they may be very well dispensed with by all ordinary learners, who merely seek the common advantages and pleasures which a new language holds out. The science of grammar is for those to study who are led to contemplate the philosophy of language, or who desire to be critics, and make literature their occupation. If then a tutor cannot be had who is able to teach Latin by oral practice, the second best method is by interlineation, or writing under each word in the Latin its corresponding English, with as much literality of translation as possible. In this method, some previous acquaintance with the conjugations and declensions will be necessary to supply the place of *vivâ voce* example. But, indeed, so little need these difficulties frighten any one, that any mother, who chooses, may undertake the Latin herself, if she will only get some one to mark the penultimate for her in words of more than one syllable, and then make the child read with her, in the Latin, the Evangelists, which she can hardly help understanding; and so on with other easy books. It is not generally advisable to

teach by catechising, which is apt to lead to irritation, usually discomposing and alarming the pupil; copious information and ready helps, on the contrary, impart cheerfulness and keep up attention. Whenever trepidation is produced in the child, and his thoughts have received disturbance from without, no further instruction can do any good:—"It is as impossible to draw fair and regular characters on a trembling mind, as on a shaking paper."

As the mere acquirement of words possesses no attraction for a child, let his Latin be made the medium of some entertaining knowledge. But if, after all, he is to be sent to a public school, insist upon it that he shall not waste his time at themes and verses. The former are ordinarily given on subjects with which it is impossible the boy should have any acquaintance; but if he had, what chance is there of his arranging his thoughts to any purpose, while writing, or attempting to write, in an ancient language, where all the labour is how to make his words hang together? As to verses, if he has no genius for poetry, they can do him no good; and if he has, it is so dangerous and precarious a gift, that no father, who wishes to see his son happily settled in life, can desire that it should be cherished. The committing long passages to memory is another practice at schools much to be denounced. A good memory is not to be acquired; that which interests the feelings is easily retained in the mind, but a heap of Latin or Greek lines is not worth the pains it costs to remember it, and may make a pedant though it cannot make a scholar. But though this parrot-like repetition of long passages can further no good object, there are many opportunities of tasking the memory with real advantage. Children should every

day have some moral sentiment—some fine saying—some admirable proverb—given them, to learn off, which may not merely exercise the memory, but also afford food for reflection. "It will oblige them often to turn their thoughts inwards, than which you cannot wish them a better intellectual habit."

Of the other branches of education, that which should have precedence of the rest is geography; for this is less irksome and more pleasing and various than the others, and children are seldom seen to set themselves with reluctance to it. Arithmetic comes next, and may be considered a sort of introduction to logic; it should first be made to wait on geography, and recommend itself by its utility in solving questions in connection with the globe, in exhibiting the longitudes and latitudes, and in helping to find places on the map. It will then come to be applied to the celestial globe, and so lead to the study of astronomy. If there are several children, there is no better way of fixing things in the memory than, when one has learnt something, to make him teach it to the others, which the distinction attending the act will always cause him to be eager to do. For geometry, the six first books of Euclid will be enough to learn; if any child possesses a genius for the study, thus much will be sure to discover it, and will enable him to accomplish the rest by himself. With geography, chronology and history ought to be combined. The Roman historians should be the first classical authors put into the hands of boys, beginning with the easiest, such as Justin, Eutropius, Quintus Curtius, &c. For a course of ethics, after the Bible, Cicero's *Offices* should be well perused, to which may be added Puffendorf *de Officio Hominis et Civis*, and Grotius *de*

Jure Belli et Pacis, or the *de Jure naturali et Gentium* of the preceding writer. Such works as these cannot be too frequently in the hands of one who desires to perfect himself in the most necessary parts of knowledge. But above all he should never be content without acquiring a thorough insight into the nature of the constitution, and the history and laws of his own country, which it will be equally needful for him to have, whether he remains in a private station, or seeks to fulfil the duties of a magistrate, or aspires to ministerial honours. Without such knowledge, he cannot perform the part even of a private English gentleman with the dignity or justice proper to the character. Both rhetoric and logic may be useful, if properly pursued; but the logic of the schools, instead of leading to any advantageous employment of the reason, only sets the mind on quibbles and sophisms that perplex, not elucidate, the truth; it also teaches a disingenuous habit of trickery and evasion, a love of argumentation for its own sake, and a desire to triumph in words, whatever becomes of sense or propriety. Chillingworth may be read with advantage in connection with this department of knowledge. The art of extemporaneous speaking is of great importance, and should be begun early, children being encouraged to relate stories which they have read, and to give an account of what they know or have seen. The usual faults of stammering and ungraceful speaking are entirely owing to neglect in education, for no nation surpasses England in the charms of eloquence when her public men choose to exercise that art. As soon as a boy can read Latin with tolerable ease, he should study the writings of Cicero, and consider the rules of speech which are given in the first book *de Inventione*, § 20.

For the attainment of an easy and polished style of letter-writing, the same author's *Epistles*, and those of Voiture in the French, may be given him. How little study without practice can avail to give a man conversational ease or excellence in writing, will appear when we compare the cases of a learned country schoolmaster and a well-bred lady. Latin and Greek are to be desired in moderation; but for one who has no intention of devoting himself to a life of literature and criticism, but has to make his way in the world by the force of his general qualifications, the cultivation of his own language is of far greater moment; and we should imitate the Romans in this, who made the Latin language, though it was their mother tongue, a separate and particular article of study. Natural philosophy can never be made a science, and it is in vain to hope to reap any solid additions to our present state of knowledge from metaphysical researches; but as an enlargement of the mind and a means of elevating it to the contemplation of great moral truths, natural philosophy should be studied at all times, the Bible being to be considered as the first step to it. To promote this object, a history of the Bible for young people, with an epitome of the same for children of the earliest reading age, should be made. And it will be well if knowledge of this spiritual kind be made always to precede that other department of philosophy which concerns physics; for this reason, that material nature is so obvious to the senses, and so easily engrosses the understanding, that it is calculated to indispose the mind for the reception of spiritual ideas, if it be not early anticipated by them. And certainly without more than mere matter can suggest to us, it is impossible to

account for the various phenomena in nature,—gravitation for example, which only the express will of God can account for,—or the deluge, which may have been produced by the alteration of the centre of gravity, at God's command, from every point of a circle drawn, at a proper distance, from the centre of the earth. As all systems of natural philosophy may be considered hypothetical and inconclusive, it will not be proper to waste more time upon them than may just fit a man to take a part in conversation on such subjects. One thing may be observed, that the doctrine of the modern Corpuscularians is to be preferred to that of the Peripatetics. Dr. Cudworth's *Intellectual System*, as exhibiting the opinions of the ancient philosophers, will be well worth reading; and Newton, for speculative science, and Boyle, for practical information, cannot be too diligently perused. If classical literature is to be made an object of primary importance, then it will be well if the pupil be made to acquire proper habits of method and application; it is to be hoped he will have begun early in life, when the mind is fresh, and that he will not be content to receive his knowledge at second-hand, but from the fountain-head.* Music is an accomplishment which demands so much time, before even a moderate proficiency can be attained, and—"it engages us often in such odd company, that many think it much better spared: and I have, amongst men of parts and business, so seldom heard any one commended or esteemed for having an excellency in music, that of almost all those things that ever came into the list of accomplishments, I think we may give it the last place."† Fencing and

* In this place Locke quotes several passages of a similar tendency from La Bruer's *Mœurs de Siècle*, p. 577—662.

† It is to be regretted that Locke, who without doubt was

riding ought to be taught, both for the benefit of health and exercise and for the power they give. The only evil consequence to be apprehended from a skill in fencing, is that it may inspire presumption and a proneness to take affronts, and, what is worse, a readiness to give them, from a certain vulgar confidence in the issue of a quarrel. Expertness in wrestling is more to be desired than a moderate skill in fencing, and would always give advantages over the latter in the field of battle. The words of Locke in this place are important, as they touch on duelling. "I shall leave it therefore to the father to consider how far the temper of his son and the station he is like to be in will allow or encourage him to comply with fashions which, having very little to do with civil life, were formerly unknown to the most warlike nations, and seem to have added little of force or courage to those who have received them; unless we think martial skill or prowess have been improved by duelling, with which fencing came into, and with which, I presume, it will go out, of the world."

In whatever station of life a man may be placed, he ought to be acquainted with at least one *trade*—not superficially or by rote—but by actual practice. Some occupations will be recommended by the utility of what

indebted to Quintilian for many of his thoughts on education—as any one may satisfy himself who chooses to consult the first, and part of the second book of the *Institutiones Oratoriæ*—should not have considered, in a more philosophical spirit, what that author has so well advanced on the subject of music, who does not hesitate to rank it as an essential and indispensable part of education. A far different feeling from Locke's, on this subject, is now getting abroad, and people are beginning to perceive, what the ancients never doubted, that music, instead of being a trivial amusement, is a great agent of moral improvement, by offering a calm domestic enjoyment to take the place of grosser excitements.—*Editor.*

they teach, others by the salutary exercise they exact. Painting is too sedentary; but gardening, turning, and the like, are full of pleasure and advantage, and the example of the ancients sufficiently demonstrates how consistent such exercises are with true honour and dignity. The passion for gaming is a proof of the restlessness of human nature, which must always have some vent for its superabundant activity. This, therefore, ought to be diverted from a vicious direction, and turned upon harmless but agreeable amusements, like those mentioned; and there are such a multitude and variety of ingenious arts, that it is impossible but that every man may find some one to his taste. Nor is the art and practice of keeping accounts less necessary for a gentleman; it will preserve his estate, and enable him at all times to know his real condition. It would be well if the father required of his son to account for the expenditure of whatever money he gives him; but this, only for the sake of keeping up so useful a habit, and not with the intention of prying into all his son's affairs, which no liberal-minded parent will do who remembers how he valued his own freedom when he was young.

Travel, which is usually deemed a necessary part of a gentleman's education, and is so, is yet generally deprived of its beneficial effects by being taken at the wrong time. Young men are sent abroad at an age when their minds are no longer susceptible of those advantages which travelling should give, and when their passions, on the other hand, are especially susceptible of every mischievous impression. The proper season for travel is—either boyhood, that is to say from seven

to fourteen or sixteen years of age, and with a tutor,—or perfect manhood, when his own discretion will be a man's sufficient monitor. In the former case, he will eagerly digest all the information his guide can give him, and will make more progress in language than under any other circumstances. In the latter case, he will benefit most from the observations he will make on the laws and manners of other countries, and from the conversation of foreigners, being then better qualified to form a correct judgment in matters of politics and philosophy.

SERMON.

Preached in the Parish Church of Christ Church, London, on Thursday, May 9, 1745; *being the time of the Yearly Meeting of the Children educated in the Charity Schools in and about the cities of London and Westminster. By* JOSEPH BUTLER, LL.D., *Lord Bishop of Durham.*

PROVERBS xxii. 6.

Train up a child in the way he should go; and when he is old he will not depart from it.

HUMAN creatures, from the constitution of their nature, and the circumstances in which they are placed, cannot but acquire habits during their childhood, by the impressions which are given them and their own customary actions; and long before they arrive at mature age these habits form a general settled character. And the observation of the text, that the most early habits are generally the most lasting, is likewise every one's observation. Now, whenever children are left to themselves, and to the guides and companions which they choose or by hazard light upon, we find by experience that the first impressions which they take, and course of action they get into, are very bad; and so consequently must be their habits, and character, and future behaviour. Thus, if they are not trained up in the way they should go, they will certainly be trained up in the way they should not go; and in all probability will persevere in

it, and become miserable themselves and mischievous to society: which, in event, is worse, upon account of both, than if they had been exposed to perish in their infancy. On the other hand, the ingenuous docility of children before they have been deceived, their distrust of themselves, and natural deference to grown people, whom they find here settled in a world where they themselves are strangers, and to whom they have recourse for advice as readily as for protection,—which deference is still greater towards those who are placed over them,—these things give the justest grounds to expect that they may receive such impressions, and be influenced by such a course of behaviour, as will produce lasting good habits; and, together with the dangers before-mentioned, are as truly a natural demand upon us to "train them up in the way they should go," as their bodily wants are a demand to provide them bodily nourishment. Brute creatures are appointed to do no more than this for their offspring, nature forming them by instincts to the particular manner of life appointed them, from which they never deviate. But this is so far from being the case of men, that, on the contrary, considering communities collectively, every successive generation is left, in the ordinary course of Providence, to be formed by the preceding one; and becomes good or bad, though not without its own merit or demerit, as this trust is discharged or violated, chiefly in the management of youth.

We ought doubtless to instruct and admonish grown persons, to restrain them from what is evil, and encourage them in what is good, as we are able; but this care of youth, abstracted from all consideration of the parental [illegible], I say this care of youth, which is the general

notion of education, becomes a distinct subject and a distinct duty, from the particular danger of their ruin, if left to themselves, and the particular reason we have to expect they will do well, if due care be taken of them. And from hence it follows that children have as much right to some proper education as to have their lives preserved; and that, when this is not given them by their parents, the care of it devolves upon all persons; it becomes the duty of all who are capable of contributing to it, and whose help is wanted.

These trite but most important things, implied indeed in the text, being thus premised as briefly as I could express them, I proceed to consider distinctly the general manner in which the duty of education is there laid before us; which will further show its extent, and further obviate the idle objections which have been made against it. And all this together will naturally lead us to consider the occasion and necessity of schools for the education of poor children, and in what light the objections against them are to be regarded.

Solomon might probably intend the text for a particular admonition to educate children in a manner suitable to their respective ranks and future employments; but certainly he intended it for a general admonition to educate them in virtue and religion, and good conduct of themselves in their temporal concerns. And all this together in which they are to be educated, he calls "the way they should go," *i. e.* he mentions it not as a matter of speculation, but of practice. And conformably to this description of the things in which children are to be educated he describes education itself; for he calls it "training them up," which is a very different thing from merely teaching them some truths necessary to be

known or believed. It is endeavouring to form such truths into practical principles in the mind, so as to render them of habitual good influence upon the temper and actions, in all the various occurrences of life. And this is not done by bare instruction; but by that, together with admonishing them frequently as occasion offers; restraining them from what is evil, and exercising them in what is good. Thus, the precept of the apostle concerning this matter is, to "bring up children in the nurture and admonition of the Lord" (Eph. vi. 4); as it were by way of distinction from acquainting them merely with the principles of Christianity, as you would with any common theory. Though education were nothing more than informing children of some truths of importance to them, relating to religion and common life, yet there would be great reason for it, notwithstanding the frivolous objections concerning the danger of giving them prejudices. But when we consider that such information itself is really the least part of it, and that it consists in endeavouring to put them into right dispositions of mind, and right habits of living, in every relation and every capacity,—this consideration shows such objections to be quite absurd; since it shows them to be objections against doing a thing of the utmost importance at the natural opportunity of our doing it, childhood and youth; and which is indeed, properly speaking, our only one: for when they are grown up to maturity, they are out of our hands, and must be left to themselves. The natural authority on one side ceases, and the deference on the other. God forbid that it should be impossible for men to recollect themselves, and reform at an advanced age; but it is in no sort in the power of others to gain upon them —to

turn them away from what is wrong, and enforce upon them what is right, at that season of their lives, in the manner we might have done in their childhood.

Doubtless religion requires instruction, for it is founded in knowledge and belief of some truths; and so is common prudence in the management of our temporal affairs: yet neither of them consist in the knowledge or belief even of these fundamental truths; but in our being brought, by such knowledge and belief, to a correspondent temper and behaviour. Religion, as it stood under the Old Testament, is perpetually styled "the fear of God;" under the new, "faith in Christ." But as that fear of God does not signify literally being afraid of him, but having a good heart, and leading a good life, in consequence of such fear; so this faith in Christ does not signify literally believing in him, in the sense that word is used in common language, but becoming his real disciples in consequence of such belief.

Our religion being thus practical, consisting in a frame of mind and course of behaviour suitable to the dispensation we are under, and which will bring us to our final good, children ought by education to be habituated to this course of behaviour, and formed into this frame of mind. And it must ever be remembered, that if no pains be taken to do it, they will grow up in a direct contrary behaviour, and be hardened in direct contrary habits; they will more and more corrupt themselves, and spoil their proper nature; they will alienate themselves farther from God; and not only neglect, but "trample under foot" the means which he, in his infinite mercy, has appointed for our recovery. And, upon the whole, the same reasons which show that

they ought to be instructed and exercised in what will render them useful to society, secure them from the present evils they are in danger of incurring, and procure them that satisfaction which lies within the reach of human prudence, show likewise that they ought to be instructed and exercised in what is suitable to the highest relations in which we stand, and the most important capacity in which we can be considered,—in that temper of mind and course of behaviour which will secure them from their chief evil, and bring them to their chief good: besides that religion is the principal security of men's acting a right part in society, and even in respect to their own temporal happiness, all things duly considered.

It is true, indeed, children may be taught superstition under the notion of religion; and it is true also that under the notion of prudence they may be educated in great mistakes as to the nature of real interest and good respecting the present world. But this is no more a reason for not educating them according to the best of our judgment, than our knowing how very liable we all are to err in other cases is a reason why we should not, in those other cases, act according to the best of our judgment.

It being then of the greatest importance that children should be thus educated, the providing schools to give this education to such of them as would not otherwise have it has the appearance, at least at first sight, of deserving a place amongst the very best of good works. One would be backward, methinks, in entertaining prejudices against it; and very forward, if one had any, to lay them aside upon being shown that they were groundless. Let us consider the whole state of

the case. For though this will lead us some little compass, yet I choose to do it; and the rather, because there are people who speak of charity-schools as a new-invented scheme, and therefore to be looked upon with I know not what suspicion: whereas it will appear that the scheme of charity-schools, even the part of it which is most looked upon in this light, teaching the children letters and accounts, is no otherwise new than as the occasion for it is so.

Formerly, not only the education of poor children, but also their maintenance, with that of the other poor, were left to voluntary charities. But great changes of different sorts happening over the nation, and charity becoming more cold, or the poor more numerous, it was found necessary to make some legal provision for them. This might, much more properly than charity-schools, be called a new scheme. For, without question, the education of poor children was all along taken care of by voluntary charities, more or less; but obliging us by law to maintain the poor was new in the reign of Queen Elizabeth. Yet because a change of circumstances made it necessary, its novelty was no reason against it. Now, in that legal provision for the maintenance of the poor, poor children must doubtless have had a part in common with grown people. But this could never be sufficient for children, because their case always requires more than mere maintenance; it requires that they be educated in some proper manner. Wherever there are poor who want to be maintained by charity, there must be poor children, who, besides this, want to be educated by charity. And whenever there began to be need of *legal* provision for the *maintenance* of the poor, there must immediately have been need also

of some *particular* legal provision in behalf of poor children for their *education*; this not being included in what we call their maintenance. And many whose parents are able to maintain them, and do so, may yet be utterly neglected as to their education. But possibly it might not at first be attended to, that the case of poor children was thus a case by itself, which required its own particular provision. Certainly it would not appear to the generality so urgent a one as the want of food and raiment; and it might be necessary that a burden so entirely new, as that of a poor-tax was at the time I am speaking of, should be as light as possible. Thus the legal provision for the poor was first settled without any particular consideration of that additional want in the case of children; as it still remains with scarce any alteration in this respect. In the meantime, as the poor still increased, or charity still lessened, many poor children were left exposed, not to perish for want of food, but to grow up in society, and learn everything that is evil, and nothing that is good in it; and when they were grown up, greatly at a loss in what honest way to provide for themselves, if they could be supposed inclined to it. And larger numbers, whose case was not so bad as this, yet were very far from having due care taken of their education. And the evil went on increasing till it was grown to such a degree as to be quite out of the compass of separate charities to remedy. At length some excellent persons, who were united in a society* for carrying on almost every good work, took into consideration the neglected case I have been representing; and first of all, as I understand it, set up

* Society for Promoting Christian Knowledge.

charity-schools, or however promoted them as far as their abilities and influence could extend. Their design was not in any sort to remove poor children out of the rank in which they were born, but, keeping them in it, to give them the assistance which their circumstances plainly called for, by educating them in the principles of religion, as well as civil life; and likewise making some sort of provision for their maintenance: under which last I include clothing them, giving them such learning, if it is to be called by that name, as may qualify them for some common employment, and placing them out to it as they grow up. These two general designs coincide in many respects, and cannot be separated. For teaching the children to read, though I have ranked it under the latter, equally belongs to both: and without some advantages of the latter sort poor people would not send their children to our charity-schools; nor could the poorest of all be admitted into any schools without some charitable provision of clothing. And care is taken that it be such as cannot but be a restraint upon the children. And if this, or any part of their education, gives them any little vanity, as hath been poorly objected, whilst they are children, it is scarce possible but that it will have even a quite contrary effect when they are grown up, and ever after remind them of their rank. Yet still we find it is apprehended that what they have been may set them above it.

But why should people be so extremely apprehensive of the danger that poor persons will make a perverse use of every the least advantage, even the being able to read, whilst they do not appear at all apprehensive of the like danger for themselves or their own children, in respect of riches or power, how much soever; though

for this amongst us; from the discontinuance of that religious intercourse between pastors and people in private, which remains in Protestant churches abroad as well as in the church of Rome; and from our small public care and provision for keeping up a sense of religion in the lower rank, except by distributing religious books. For in this way they have been assisted; and any well-disposed person may do much good amongst them, and at a very trifling expense, since the worthy society before-mentioned has so greatly lessened the price of such books. And this pious charity is an additional reason why the poor should be taught to read, that they may be in a capacity of receiving the benefit of it. Vain indeed would be the hope that anything in this world can be fully secured from abuse. For as it is the general scheme of Divine Providence to bring good out of evil, so the wickedness of men will, if it be possible, bring evil out of good. But upon the whole, incapacity and ignorance must be favourable to error and vice; and knowledge and improvement contribute, in due time, to the destruction of impiety as well as superstition, and to the general prevalence of true religion. But some of these observations may perhaps be thought too remote from the present occasion. It is more obviously to the purpose of it to observe, that reading, writing, and accounts are useful, and, whatever cause it is owing to, would really now be wanted in the very lowest stations; and that the trustees of our charity-schools are fully convinced of the great fitness of joining to instruction easy labour of some sort or other, as fast as it is practicable; which they have already been able to do in some of them.

Then as to placing out the poor children, as soon as

they are arrived at a fit age for it, this must be approved by every one, as it is putting them in a way of industry and domestic government at a time of life in some respects more dangerous than even childhood. And it is a known thing that care is taken to do it in a manner which does not set them above their rank; though it is not possible to do it always exactly as one would wish. Yet I hope it may be observed without offence, if any of them happen to be of a very weakly constitution, or of a very distinguished capacity, there can be no impropriety in placing these in employments adapted to their particular cases, though such as would be very improper for the generality.

But the principal design of this charity is, to educate poor children in such a manner as has a tendency to make them good, and useful, and contented, whatever their particular station be. The care of this is greatly neglected by the poor; nor truly is it more regarded by the rich, considering what might be expected from them. And if it were as practicable to provide charity-schools which should supply this shameful neglect in the rich, as it is to supply the like, though more excusable neglect in the poor, I should think certainly that both ought to be done for the same reasons. And most people, I hope, will think so too, if they attend to the thing I am speaking of,—which is the moral and religious part of education, —what is equally necessary for all ranks, and grievously wanting in all. Yet in this respect the poor must be greatly upon a disadvantage, from the nature of the case, as will appear to any one who will consider it.

For if poor children are not sent to school, several years of their childhood of course pass away in idleness and loitering. This has a tendency to give them per-

haps a feeble listlessness, perhaps an headstrong profligateness of mind; certainly an indisposition to proper application as they grow up, and an aversion afterwards not only to the restraints of religion, but to those which any particular calling, and even the nature of society require. Whereas children kept to stated orders, and who many hours of the day are in employment, are by this means habituated both to submit to those who are placed over them and to govern themselves; and they are also by this means prepared for industry in any way of life in which they may be placed. And all this holds abstracted from the consideration of their being taught to read; without which, however, it will be impracticable to employ their time; not to repeat the unanswerable reasons for it before-mentioned. Now several poor people cannot, others will not, be at the expense of sending their children to school. And let me add, that such as can and are willing, yet if it be very inconvenient to them, ought to be eased of it, and the burden of children made as light as may be to their poor parents.

Consider next the manner in which the children of the poor who have vicious parents are brought up in comparison of other children, whose parents are of the same character. The children of dissolute men of fortune may have the happiness of not seeing much of their parents. And this, even though they are educated at home, is often the case, by means of a customary distance between them, which cannot be kept amongst the poor. Nor is it impossible that a rich man of this character, desiring to have his children better than himself, may provide them such an education as may make them so, without his having restraint or trouble in the matter. And the education which children of better

rank must have for their improvement in the common accomplishments belonging to it is of course, as yet, for the most part attended with some sort of religious education. But the poor, as they cannot provide persons to educate their children, so, from the way in which they live together in poor families, a child must be an eye and ear witness of the worst part of his parents' talk and behaviour. And it cannot but be expected that his own will be formed upon it. For as example in general has very great influence upon all persons, especially children, the example of their parents is an authority with them when there is nothing to balance it on the other side. Now take in the supposition that these parents are dissolute, profligate people; then over and above giving their children no sort of good instruction, and a very bad example, there are more crimes than one in which it is to be feared they will directly instruct and encourage them; besides letting them ramble abroad wherever they will, by which, of course, they learn the very same principles and manners they do at home. And from all these things together such poor children will have their characters formed to vice by those whose business it is to restrain them from it. They will be disciplined and trained up in it. This surely is a case which ought to have some public provision made for it. If it cannot have an adequate one, yet such an one as it can; unless it be thought so rare as not to deserve our attention. But in reality, though there should be no more parents of this character amongst the poor, in proportion, than amongst the rich, the case which I have been putting will be far from being uncommon. Now, notwithstanding the danger to which the children of such wretched parents cannot but be

exposed, from what they see at home; yet by instilling into them the principles of virtue and religion at school, and placing them soon out in sober families, there is ground to hope they may avoid those ill courses, and escape that ruin, into which, without this care, they would almost certainly run. I need not add how much greater ground there is to expect that those of the children who have religious parents will do well. For such parents, besides setting their children a good example, will likewise repeat and enforce upon them at home the good instructions they receive at school.

After all, we find the world continues very corrupt; and it would be miraculous indeed if charity schools alone should make it otherwise; or if they should make even all who are brought up in them proof against its corruptions. The truth is, every method that can be made use of to prevent or reform the bad manners of the age will appear to be of less effect in proportion to the greater occasion there is for it: as cultivation, though the most proper that can be, will produce less fruit, or of a worse sort, in a bad climate than in a good one. And thus the character of the common people, with whom those children are to live in the ordinary intercourse of business and company, when they come out into the world, may more or less defeat the effects of their education. And so likewise may the character of men of rank, under whose influence they are to live. But whatever danger may be apprehended from either or both of these, it can be no reason why we should not endeavour by the likeliest methods we can, to better the world, or keep it from growing worse. The good tendency of the method before us is unquestionable. And I think myself obliged to add, that upon a comparison

of parishes where charity schools have been for a considerable time established with neighbouring ones in like situations which have had none, the good effects of them, as I am very credibly informed, are most manifest. Notwithstanding, I freely own that it is extremely difficult to make the necessary comparisons in this case, and form a judgment upon them. And a multitude of circumstances must come in, to determine, from appearances only, concerning the positive good which is produced by this charity, and the evil which is prevented by it; which last is full as material as the former, and can scarce be estimated at all. But surely there can be no doubt whether it be useful or not to educate children in order, virtue, and religion.

However, suppose, which is yet far from being the case, but suppose it should seem, that this undertaking did not answer the expense and trouble of it, in the civil or political way of considering things, what is this to persons who profess to be engaged in it, not only upon mere civil views, but upon moral and Christian ones? We are to do our endeavours to promote virtue and religion amongst all men, and leave the success to God. The designs of his Providence are answered by these endeavours: "whether they will hear, or whether they will forbear;" *i. e.* whatever be the success of them; and the least success, in such cases, is a great and valuable effect.

From these foregoing observations, duly considered, it will appear that the objections which have been made against charity schools are to be regarded in the same light with those which are made against any other necessary things; for instance, against providing for the sick and the aged poor. Objections in this latter case

could be considered no otherwise than merely as warnings of some inconvenience which might accompany such charity, and might, more or less, be guarded against, the charity itself being still kept up; or as proposals for placing it upon some better foot. For though, amidst the disorder and imperfection in all human things, these objections were not obviated, they could not however possibly be understood as reasons for discontinuing such charity; because, thus understood, they would be reasons for leaving necessitous people to perish. Well-disposed persons therefore will take care that they be not deluded with objections against this before us, any more than against other necessary charities, as though such objections were reasons for suppressing them, or not contributing to their support, unless we can procure an alteration of that to which we object. There can be no possible reasons for leaving poor children in that imminent danger of ruin in which many of these must be left, were it not for this charity. Therefore objections against it cannot, from the nature of the case, amount to more than reasons for endeavouring, whether with or without success, to put it upon a right and unexceptionable foot in the particular respects objected against. And if this be the intention of the objectors, the managers of it have shown themselves remarkably ready to second them; for they have shown even a docility in receiving admonitions of anything thought amiss in it, and proposals for rendering it more complete. And, under the influence of this good spirit the management of it is really improving; particularly in greater endeavours to introduce manufactures into these schools, and in more particular care to place the children out to employments

in which they are most wanted, and may be most serviceable, and which are most suitable to their ranks. But if there be anything in the management of them which some particular persons think should be altered, and others are of a contrary opinion, these things must be referred to the judgment of the public, and the determination of the public complied with. Such compliance is an essential principle of all charitable associations, for without it they could not subsist at all; and by charitable associations multitudes are put in mind to do good, who otherwise would not have thought of it; and infinitely more good may be done than possibly can by the separate endeavours of the same number of charitable persons. Now, he who refuses to help forward the good work before us, because it is not conducted exactly in his own way, breaks in upon that general principle of union, which those who are friends to the indigent and distressed part of our fellow-creatures will be very cautious how they do in any case; but more especially will they beware how they break in upon that necessary principle in a case of so great importance as is the present. For the public is as much interested in the education of poor children as in the preservation of their lives.

This last, I observed, is legally provided for. The former is left among other works of charity, neglected by many who care for none of these things, and to be carried on by such only as think it their concern to be doing good. Some of you are able and in a situation to assist in it in an eminent degree, by being trustees, and overlooking the management of these schools, or in different ways countenancing and recommending them, as well as by contributing to their maintenance; others can assist

only in this latter way. In what manner and degree then it belongs to you, and to me, and to any particular person, to help it forward, let us all consider seriously; not for one another, but each of us for himself.

And may the blessing of Almighty God accompany this work of charity, which he has put into the hearts of his servants in behalf of these poor children; that being now "trained up in the way they should go, when they are old they may not depart from it." May he of his mercy keep them safe amid the innumerable dangers of this bad world through which they are to pass, and preserve them unto his heavenly kingdom.

INTRODUCTORY DISCOURSE.

By FRANCIS WAYLAND, Junior.
PRESIDENT OF BROWN UNIVERSITY.

[In March, 1830, a society was established at Boston in the United States, called the American Institute of Instruction. It consisted chiefly of teachers, but is open to any one "of good moral character, interested in the subject of education," a dollar being paid on admission, and an annual subscription of a like sum, by every member. At the meetings, the principal of which takes place in August of each year, and continues for several days, the members are occupied with discussions on questions brought forward relative to matters connected with education, and lectures are delivered upon similar subjects. The Society have also instituted prizes for essays on subjects appointed by them. By the constitution of the Society, the Board of Directors are empowered to appoint competent persons to deliver an address at the annual meeting, and lectures "on such subjects relating to education as they may deem expedient and useful;" and they are also to collect such facts as may promote the general interests of the Society. The censors are to publish such of these as "may tend to throw light on the subject of education, and aid the faithful instructor in the discharge of his duty." Two volumes have been published, containing much valuable matter, and from these volumes we take the following

Introductory Discourse, delivered by Francis Wayland, President of Brown University, at the first annual meeting, and shall avail ourselves in the course of this work of a few of the lectures delivered before this Society.]

In the long train of her joyous anniversaries, New England has yet beheld no one more illustrious than this. We have assembled to-day, not to proclaim how well our fathers have done, but to inquire how we may enable their sons to do better. We meet, not for the purposes of empty pageant, nor yet of national rejoicing, but to deliberate upon the most successful means for cultivating, to its highest perfection, that invaluable amount of intellect, which Divine Providence has committed to our hands. We have come up here to the city of the Pilgrims, to ask how we may render their children most worthy of their ancestors and most pleasing to their God. We meet to give to each other the right hand of fellowship in carrying forward this all-important work, and here to leave our professional pledge, that, if the succeeding generation do not act worthily, the guilt shall not rest upon those who are now the Instructors of New England.

Well am I aware that the occasion is worthy of the choicest effort of the highest talent in the land. Sincerely do I wish that upon such talent the duty of addressing you this day had devolved. Much do I regret that sudden indisposition has deprived me of the time which had been set apart to meet the demands of the present occasion, and that I am only able to offer for your consideration such reflections as have been

snatched from the most contracted leisure, and gleaned amid the hurried hours of languid convalescence. But I bring, as an offering to the cause of education, a mind deeply penetrated with a conviction of its surpassing importance, and enthusiastically ardent in anticipating the glory of its ultimate results. I know, then, that I may liberally presume upon your candour, while I rise to address those, to very many of whom it were far more beseeming that I quietly and humbly listened.

The subject which I have chosen for our mutual improvement is, *The object of intellectual education; and the manner in which that object is to be attained.*

I. It hath pleased Almighty God to place us under a constitution of universal law. By this we mean, that nothing, either in the physical, intellectual, or moral world, is in any proper sense contingent. Every event is preceded by its regular antecedents, and followed by its regular consequents; and hence is formed that endless chain of cause and effect which binds together the innumerable changes which are taking place everywhere around us.

When we speak of this system as subjected to universal law, we mean all this; but this is not all that we mean. The term law, in a higher sense, is applied to beings endowed with conscience and will, and then there is attached to it the idea of rewards and punishments. It is then used to signify a constitution so arranged, that one course of action shall be inevitably productive of happiness, and another course shall be as inevitably productive of misery. Now, in this higher sense it is strictly and universally true, that we are placed under a constitution of law. Every action which we perform is as truly amenable as inert matter

to the great principles of the government of the universe, and every action is chained to the consequences which the Creator has affixed to it as unalterably as any sequence of cause and effect in physics. And thus, with equal eloquence and truth, the venerable Hooker has said, "of law there can be no less acknowledged than that her seat is the bosom of God, her voice the harmony of the world; all things in heaven and earth do her homage, the very least as feeling her care, and the very greatest as not exempted from her power; both angels and men and creatures of what condition soever, though each in different sort and manner, yet all with uniform consent, admiring her as the mother of their peace and joy."

Such a constitution having been established by a perfectly wise Creator, it may be easily supposed that it will remain unchangeable. His laws will not be altered for our convenience. We may obey them or disobey them, we may see them or not see them, we may be wise or unwise, but they will be rigidly and unalterably enforced. Thus must it ever be, until we have the power to resist the strength of Omnipotence.

Again; it is sufficiently evident that the very constitution which God has established is, with infinite wisdom and benevolence, devised for just such a being, physical, intellectual, and moral, as man. By obedience to the laws of God, man may be as happy as his present state will allow. Misery is always the result of a violation of some of the laws which the Creator has established. Hence, our great business here, is, *to know and obey the laws of our Creator.*

That part of man by which we know, and, in the most important sense, obey the laws of the Creator, is

called MIND. I use the word in its general sense, to signify, not merely a substance, not matter capable of intellection, but one also capable of willing, and to which is attached the responsibility of right and wrong in human action. And, still further, it is one of the laws of mind, that increased power for the acquisition of knowledge, and a more universal disposition to obedience, may be the result of the action of one mind upon another, or of the well-directed efforts of the individual mind itself.

Without some knowledge of the laws of nature, it is evident that man would immediately perish. But it is possible for him to have only so much knowledge of them as will barely keep generation after generation in existence, without either adding anything to the stock of intellectual acquisition, or subjecting to his use any of the various agents which a bountiful Providence has everywhere scattered around for the supply of his wants and the relief of his necessities. Such was the case with the aborigines of our country, and such had it been for centuries. Such, also, with but very few and insignificant exceptions, is the case in Mohammedan and Pagan countries. The sources of their happiness are few and intermitting—those of their misery multiplied and perpetual.

Looking upon such nations as these, we should involuntarily exclaim, What a waste of being, what a loss of happiness, do we behold! Here are intelligent creatures placed under a constitution devised by infinite wisdom to promote their happiness. The very penalties which they suffer are so many proofs of the divine goodness—mere monitions to direct them in the paths of obedience. And besides this, they are endowed with

a mind perfectly formed to investigate and discover these laws, and to derive its highest pleasure from obeying them. Yet that mind, from want of culture, has become useless. It achieves no conquests. It removes no infelicities. Here, then, must the remedy be applied. This immaterial part must be excited to exertion, and must be trained to obedience. Just so soon as this process is commenced, a nation begins to emerge from the savage and enter upon the civilized state. Just in proportion to the freedom and the energy with which the powers of the mind are developed, and the philosophical humility with which they are exercised, does a people advance in civilization. Just in proportion as a people is placed under contrary influences, is its movement retrograde.

The science which teaches us how to foster these energies of mind is the science of education. In few words, I would say, *the object of the science of education is, to render mind the fittest possible instrument for* DISCOVERING, APPLYING, *or* OBEYING, *the laws under which God has placed the universe.*

That all this is necessary, in order to carry forward the human species to the degree of happiness which it is destined, at some time or other, to attain, may be easily shown.

The laws of the universe must be *discovered.* Until they are discovered, we shall be continually violating them and suffering the penalty, without either possibility of rescue or hope of alleviation. Hence the multitude of bitter woes which ignorance inflicts upon a people. Hence the interest which every man should take in the progress of knowledge. Who can tell how countless are the infelicities which have been banished from the

world by the discovery of the simple law that a magnetized needle, when freely suspended, will point to the north and south?

Nor is it sufficient that a law be discovered. Its relations to other laws must be ascertained, and the means devised by which it may be made to answer the purposes of human want. This is called *application*, or *invention*. The law of the expansive power of steam was discovered by the Marquis of Worcester, in 1663. It remained, however, for the inventive power of Watt and Fulton, more than a century afterwards, to render it subservient to the happiness of man. From want of skill in a single branch of this department of mental labour, the human race has frequently been kept back for ages. The ancients, for instance, came very near the invention of the printing-press. Thus has it been with several other of the most important inventions. It makes a thoughtful man sad, at the present day, to observe how many of the most important agents of nature we are obliged to expose to the gaze of lecture-rooms, without being able to reveal a single practical purpose for which they were created.

But this is not all. A man may know a law of his Creator, and understand its application; but if he do not *obey* it, he will neither reap the reward nor escape the penalty which the Creator has annexed to it. Here we enter, at once, into the mysterious region of human will, of motive, and of conscience. To examine it at present is not my design. I will only remark, that some great improvement is necessary in this part of our nature, before we can ever reap the benefits of the present constitution of the universe. I do not think that any philosopher can escape the conviction, that when

important truth is the subject of inquiry, we neither possess the candour of judgment, nor the humility of obedience, which befits the relations existing between a creature and his Creator. In proof of this, it is sufficient to refer to well-known facts. Galileo suffered the vengeance of the Inquisition for declaring the sun to be the centre of the planetary system! How slow were the learned in adopting the discoveries of Hervey or of Newton! Still more visible is this obstinacy, when the application of a moral law is clearly discovered. Though supported by incontrovertible argument, how slowly have the principles of religious toleration gained foothold even in the civilized world! After the slave trade had been proved contrary to every principle of reason and conscience, and at variance with every law of the Creator, for nearly twenty years did Clarkson and his associates labour, before they could obtain the act for its abolition. And to take an illustration nearer home,—how coolly do we look on and behold lands held by unquestionable charter from Almighty God, in defiance of an hundred treaties by which the faith of this country has been pledged—in violation of every acknowledged law, human and divine, wrested from a people, by whose forbearance, a century ago, our fathers were permitted to exist! I speak not the language of party. I eschew and abhor it; but "I speak with the freedom of history, and I hope without offence." These examples are at least sufficient to show us, that the mind of man is not, at present, the fittest instrument possible for obeying the laws of his Creator, and that there is need, therefore, of that science which shall teach him to become such an instrument.

The question which will next arise is this:—Can

these things be taught? Is it practicable, by any process which man can devise, to render mind a fitter instrument for discovering, applying, and obeying the laws of his Creator? We shall proceed, in the next place, to show that all this is practicable.

1. It is practicable to train the mind to greater skill in *discovery*. A few facts will render this sufficiently evident.

It will not be denied that some modes of thinking are better adapted to the discovery of truth than others. Those trains of thought which follow the order of cause and effect, premises and conclusion, or, in general, what is considered the order of the understanding, are surely more likely to result in discovery than those which follow the order of the casual relations, as of time, place, resemblance, and contrast, or, as it is commonly called, the order of the imagination. Discovery is the fruit of patient thought, and not of impetuous combination. Now it must be evident that mind directed in the train of the understanding, will be a far better instrument of discovery than if under the guidance of the imagination. And it is evident that the one mode of thinking may be as well cultivated as the other, or as any mode whatsoever. And hence has arisen the mighty effect which Bacon produced upon the world. He allured men from the weaving of day-dreams to the employment of their reason. Just in proportion as we acquire skill in the use of our reason will be the progress of truth.

Again; there can be no doubt that, in consequence of the teaching of Bacon, or, in other words, in consequence of improvement in education, the human mind has, in fact, become a vastly more skilful instrument of

discovery than ever it was before. In proof of this, I do not refer merely to the fact, that more power has been gained over the agents of nature, and that they have been made to yield a greater amount of human happiness to the human race, within the last one hundred years, than for ten times that period before. This, of itself, would be sufficient to show an abundant increase of intellectual activity. I would also refer to the fact that several of the most remarkable discoveries have been made by different men at the same time. This would seem to show, that mind, in the aggregate, was moving forward, and that everything with which we are now acquainted must soon have been discovered, even if it had eluded the sagacity of those who were fortunate enough to observe it. This shows that the power of discovery has already been in some degree increased by education. What has been so auspiciously begun can surely be carried to far greater perfection.

Again; if we inquire what are those attributes of mind on which discovery mainly depends, I think we shall find them to be patient observation, acute discrimination, and cautious induction. Such were the intellecual traits of Newton, that prince of modern philosophers. Now it is evident that these attributes can be cultivated, as well as those of taste or imagination. Hence, it seems as evident that the mind may be trained to discovery, that is, that mind may be so disciplined as to be able to ascertain the particular laws of any individual substance, as that any other thing may be done.

2. By *application* or *invention* I mean the contriving of those combinations by which the already discovered laws of the universe may be rendered avail-

able to the happiness of man. It is possible to render the mind a fitter instrument for the accomplishment of this purpose.

In proof of this remark, I may refer you to the two first considerations to which I have just adverted; namely, that some trains of thought are more productive of invention than others, and that, by following those trains, greater progress has, within a few years, been made in invention, than within ten times that period before.

It is proper, however, to remark, that the qualities of mind on which invention depends are somewhat dissimilar from those necessary to discovery. Invention depends upon accuracy of knowledge in detail, as well as in general, and a facility for seizing upon distant and frequently recondite relations. Discovery has more to do with the simple quality, invention with the complex connexions. Discovery views truth in the abstract; invention views it either in connexion with other truth, or in its relation to other beings. Hence has it so frequently taken place that philosophers have been unable to avail themselves of their own discoveries; or, in other words, that the powers of discovery and of invention are so seldom combined in the same individual. In one thing, however, they agree. Both depend upon powers of mind capable of cultivation; and, therefore, both are susceptible of receiving benefit beyond any assignable degree, by the progress of education.

3. The mind may be rendered a fitter instrument for obeying the laws of the universe. This will be accomplished, when men, first, are better acquainted with the laws of the universe; and second, when they are better

disposed to obey them. That both of these may be accomplished, scarcely needs confirmation.

For, first, I surely need not consume your time to prove, that a much greater amount of knowledge of the laws of the universe might be communicated in a specified time, than is communicated at present. Improvement in this respect depends upon two principles:—first, greater skill may be acquired in teaching; and second, the natural progress of the sciences is towards simplification. As they are improved, the more proximate relations of things are discovered, the media are rendered clearer, and the steps in the illustration of truth less numerous. As a man knows more of the laws of his Creator, he can surely obey them better.

And secondly, those dispositions which oppose our meek and humble obedience may be corrected. Candour may be made to take the place of prejudice, and envy may be exchanged for a generous ardour after truth. This a good teacher frequently accomplishes now. And that the Gospel of Jesus Christ does present a most surprising cure for those dispositions which oppose the progress of truth and interfere with our obedience to the moral laws of our being, no one who, at the present day, looks upon the human race with the eye of a philosopher, can with any semblance of candour venture to deny.

It would not be difficult, did time permit, by an examination of the various laws, physical, intellectual, and moral, under which we are placed, to show that the principles which I have been endeavouring to illustrate are universal, and apply to every possible action of the most eventful life. It could thus be made to appear that

all the happiness of man is derived from discovering, applying, or obeying the laws of his Creator, and that all his misery is the result of ignorance or disobedience; and hence, that the good of the species can be permanently promoted, and permanently promoted only, by the accomplishment of that which I have stated to be the object of education.

I have thus far endeavoured to show, from our situation as just such creatures, namely, under laws of which we come into the world ignorant, and laws which can only be known by a mind possessed of acquired power, that there is, in our present state, the need of such a science as that of education. I have endeavoured to show what is its object, and also to show that that object may be accomplished. I will now take leave of this part of the subject with a few remarks upon the relation which this science sustains to other sciences.

1. If the remarks already made have the least foundation in truth, we do not err in claiming for education the rank of a distinct science. It has its distinct subject, its distinct object, and is governed by its own laws. And, moreover, it has, like other sciences, its corresponding art,—the art of teaching. Now if this be so, we would ask how any man should understand this science, any more than that of mathematics or astronomy, without ever having studied it, or having even thought about it? If there be any such art as the art of teaching, we ask how it comes to pass that a man shall be considered fully qualified to exercise it without a day's practice, when a similar attempt in any other art would expose him to ridicule? Henceforth, I pray you, let the ridicule be somewhat more justly distributed.

2. The connexions of this science are more extensive

than those of any other. Almost any one of the other sciences may flourish independently of the rest. Rhetoric may be carried to high perfection, whilst the mathematics are in their infancy. Physical science may advance, whilst the science of interpretation is stationary. No science, however, can be independent of the science of education. By education their triumphs are made known; by education alone can they be multiplied.

Hence, thirdly, it is upon education that the progress of all other sciences depends. A science is a compilation of the laws of the universe on one particular subject. Its progress is marked by the number of these laws which it reveals, and the multiplicity of their relations which it unfolds. Now we have before shown that the number of laws which are discovered will be in proportion to the skill of mind, the instrument which is to discover them. Hence, just in proportion to the progress of the science of education will be the power which man obtains over nature, the extent of his knowledge of the laws of the universe, and the abundance of means of happiness which he enjoys.

If this be so, it would not seem arrogant to claim for education the rank of the most important of the sciences, excepting only the science of morals. And hence we infer, that it presents subjects vast enough, and interests grave enough, to task the highest effort of the most gifted intellect, in the full vigour of its powers. Is it not so? If it be so, on what principle of common sense is it that a man is considered good enough for a teacher because he has most satisfactorily proved himself good for no one thing else? Why is it, that the utter want of sufficient health to exercise any other profession is frequently the only reason why a man should be thrust into this, which

requires more active mental labour in the discharge of its duties than any other profession whatsoever? Alas! it is not by teachers such as these that the intellectual power of a people is to be created. To hear a scholar say a lesson, is not to educate him. He who is not able to leave his mark upon a pupil never ought to have one. Let it never be forgotten, that, in the thrice resplendent days of the intellectual glory of Greece teachers were in her high places. Isocrates, Plato, Zeno, and Aristotle were, without question, stars of by very far the first magnitude, in that matchless constellation which still surrounds with undiminished effulgence the name of the city of Minerva.

And lastly, if the science of education be thus important, is it not worthy of public patronage? Knowledge of every sort is valuable in a community, very far beyond what it costs to produce it. Hence it is for the interest of every man to furnish establishments by which knowledge can be increased. Of the manner in which this should be afforded, it belongs to political economists to treat. Let me suggest only a very few hints on the subject. Books are the repositories of the learning of past ages. Longer time than that of an individual's life, and greater wealth than falls to the lot of teachers, are required to collect them in numbers sufficient for extensive usefulness. The same may be said of instruments for philosophical research. Let these be furnished, and furnished amply. Let your instructors have the use of them, if you please, gratuitously; and if you do not please, not so, and then, on the principles which govern all other labour, let every teacher, like every other man, take care of himself. Give to every man prominent and distinct individuality. Remove all the

useless barriers which shelter him from the full and direct effect of public opinion. Let it be supposed, that, by becoming a teacher, he has not lost all pretensions to common sense; and that he may possibly know as much about his own business as those, who, by confession, know nothing at all about it. In a word, make teaching the business of men, and you will have men to do the business of teaching. I know not that the cause of education, so far as teachers are concerned, requires any other patronage.

I come now to the second part of the subject, which, I am aware, it becomes me to treat with all possible brevity.

II. In what manner shall mind be thus rendered a fitter instrument to answer the purposes of its creation?

To answer this question, let us go back a little. We have shown that the present constitution of things is constructed for man, and that man is constructed for the present constitution. As mind, then, is the instrument by which he avails himself of the laws of that constitution, it may be supposed that it was endowed with all the powers necessary to render it subservient to his best interests. Were it possible, therefore, it would be useless to attempt to give it any additional faculties. All that is possible, is, to cultivate to higher perfection those faculties which exist, or to vary their relations to each other. In other words, to cultivate to the utmost the original faculties of the mind, is to render it the fittest possible instrument for discovering, applying, and obeying the laws of its creation.

This is, however, an answer to the question in the abstract, and without any regard to time. But the question

to us is not an abstract question; it has regard to time. That is to say, we do not ask simply what is the best mode of cultivating mind, but what is the best mode of doing it now, when so many ages have elapsed, and so many of the laws of the universe have been discovered. Much knowledge has already been acquired by the human race, and this knowledge is to be communicated to the pupil.

All this every one sees at first glance to be true. Nearly all the time spent in pupilage, under the most favourable circumstances, is in fact employed in the acquisition of those laws which have been already discovered. Without a knowledge of them, education would be almost useless. Without it, there could evidently be no progressive improvement of the species. Education, considered in this light alone, has very many and very important ends to accomplish. It is desirable that the pupil should be taught *thoroughly;* that is, that he should have as exact and definite a knowledge as possible of the law and of its relations. It is desirable that he be taught *permanently;* that is, that the truth communicated be so associated with his other knowledge, that the lapse of time will not easily erase it from his memory. It is important, also, that *no more time be consumed in the process than is absolutely necessary.* He who occupies two years in teaching what might as well be taught with a little more industry in one year, does his pupil a far greater injury than would be done by simply abridging his life by a year. He not only abstracts from his pupil's acquisition that year's improvement, but all the knowledge which would have been the fruit of it for the remainder of his being.

If, then, all that portion of our time which is devoted

to education must be occupied in acquiring the laws of the universe, how shall opportunity be afforded for cultivating the original powers of the mind?

I answer, an all-wise Creator has provided for this necessity of our intellectual nature. His laws, in this, as in every other case, are in full and perfect harmony.

For, first, the original powers of the mind are cultivated by use. This law, I believe, obtains in respect to all our powers, physical, intellectual, and moral. But it must be by the use of each several faculty. The improvement of the memory does not, of necessity, strengthen the power of discrimination; nor does the improvement of natural logical acuteness of necessity add sensibility to the taste. The law on this subject seems to be, that every several faculty is strengthened and rendered more perfect exactly in proportion as it is subjected to habitual and active exercise.

And, secondly, it will be found that the secret of teaching most thoroughly, permanently, and in the shortest time, that is, of giving to the pupil in a given time the greatest amount of knowledge, consists in so teaching as to give the most active exercise to the original faculties of the mind. So that it is perfectly true, that if you wished so to teach as to make the mind the fittest possible instrument for discovering, applying, and obeying the laws of the Creator, you would so teach as to give to the mind the greatest amount of knowledge; and, on the contrary, if you wished so to teach as to give to a pupil, in a given time, the greatest amount of knowledge, you would so teach as to render his mind the fittest instrument for discovering, applying, and obeying the laws of its Creator.

I do not forget that the discussion of the practical business of teaching is, on this occasion, committed to other hands. You will, however, I trust, allow me to suggest here one or two principles which seem to me common to all teaching, and which are in their nature calculated to produce the results to which I have referred.

1. Let a pupil understand everything that it is designed to teach him. If he cannot understand a thing this year, it was not designed by his Creator that he should learn it this year. But let it not be forgotten, that precisely here is seen the power of a skilful teacher. It is his business to make a pupil, if possible, understand. Very few things are incapable of being understood, if they be reduced to their ultimate elements. Hence the reason why the power of accurate and natural analysis is so invaluable to a teacher. By simplification and patience, it is astonishing to observe how easily abstruse subjects may be brought within the grasp of even the faculties of children. Let a teacher, then, first understand a subject himself. Let him know that he understands it. Let him reduce it to its natural divisions and its simplest elements. And then, let him see that his pupils understand it. This is the first step.

2. I would recommend the frequent repetition of whatever has been acquired. For want of this, an almost incalculable amount of invaluable time is annually wasted. Who of us has not forgotten far more than he at present knows? What is understood to-day, may with pleasure be reviewed to-morrow. If it be frequently reviewed, it will be associated with all our other

knowledge, and be thoroughly engraven on the memory. If it be laid aside for a month or two, it will be almost as difficult to recover it as to acquire a new truth; and it is, moreover, destitute of the interest derived only from novelty. If this be the case with us generally, I need not say how peculiarly the remark applies to the young.

But lastly, and above all, let me insist upon the importance of universal practice of everything that is learned. No matter whether it be a rule in arithmetic, or a rule in grammar, a principle in rhetoric, or a theorem in the mathematics; as soon as it is learned and understood, let it be practised. Let exercise be so devised as to make the pupil familiar with its application. Let him construct exercises himself. Let him not leave them until he feels that he understands both the law and its application, and is able to make use of it freely and without assistance. The mind never will derive power in any other way. Nor will it, in any other way, attain to the dignity of certain, and practical, and available science.

So far as we have gone, then, we have endeavoured to show that the business of a teacher is so to communicate knowledge as most constantly and vigorously to exercise the original faculties of the mind. In this manner he will both convey the greatest amount of instruction, and create the largest amount of mental power.

I intended to confirm these remarks by a reference to the modes of teaching some of the most important branches of science. But I fear that I should exhaust your patience, and also that I might anticipate what will be much better illustrated by those who will come

after me. I shall therefore conclude by applying these considerations to the elucidation of some subjects of general importance.

1. If these remarks be true, they show us in what manner text-books ought to be constructed. They should contain a clear exhibition of the subject, its limits, and relations. They should be arranged after the most perfect method, so that the pupil may easily survey the subject in all its ramifications; and should be furnished with examples and questions to illustrate every principle which they contain. It should be the design of the author to make such a book as could neither be studied unless the pupil understood it, nor taught unless the instructor understood it. Such books, in every department, are, if I mistake not, very greatly needed.

If this be true, what are we to think of many of those school books which are beginning to be very much in vogue amongst us? There first appears, perhaps, an abridgment of a scientific text-book. Then, lest neither instructor nor pupil should be able to understand it without assistance, a copious analysis of each page or chapter or section is added in a second and improved edition. Then, lest, after all, the instructor should not know what questions should be asked, a copious list of these is added to a third and still more improved edition. The design of this sort of work seems to be to reduce all mental exercise to a mere act of memory, and then to render the necessity even for the use of this faculty as small as may be possible. Carry the principle but a little farther, and an automaton would answer every purpose exactly as well as an instructor. Let us put away all these miserable helps, as fast as possible, I

pray you. Let us never forget that the business of an instructor begins where the office of a book ends. It is the action of mind upon mind, exciting, awakening, showing by example the power of reasoning, and the scope of generalization, and rendering it impossible that the pupil should not think; this is the noble and the ennobling duty of an instructor.

2. These remarks will enable us to correct an error which of late has done very much evil to the science of education. Some years since, I know not when, it was supposed, or we have said it was supposed, that the whole business of education was to store the mind with facts. Dugald Stewart, I believe, somewhere remarks that the business of education, on the contrary, is to cultivate the original faculties. Hence the conclusion was drawn that it mattered not what you taught, the great business was to strengthen the faculties. Now this conclusion has afforded to the teacher a most convenient refuge against the pressure of almost every manner of attack. If you taught a boy rhetoric, and he could not write English, it was sufficient to say that the grand object was not to teach the structure of sentences, but to strengthen the faculties. If you taught him the mathematics, and he did not understand the Rule of Three, and could not tell you how to measure the height of his village steeple, it was all no matter—the object was to strengthen his faculties. If, after six or seven years of study of the languages, he had no more taste for the classics than for Sanscrit, and sold his books to the highest bidder, resolved never again to look into them, it was all no matter,—he had been studying to strengthen his faculties, while by this very process his faculties have been enfeebled almost to annihilation.

Now, if I mistake not, all this reasoning is false, even to absurdity. Granting that the improvement of the faculties is the most important business of instruction, it does not follow that it is the only business. What! will a man tell me that it is of no consequence whether or not I know the laws of the universe under which I am constituted? Will he insult me, by pretending to teach them to me in such a manner that I shall, in the end, know nothing about them? Are such the results to which the science of education leads? Will a man pretend to illuminate me by thrusting himself, year after year, exactly in my sunshine? No; if a man profess to teach me the laws of my Creator, let him make the thing plain, let him teach me to remember it, and accustom me to apply it. Otherwise, let him stand out of the way, and allow me to do it for myself.

But this doctrine is yet more false; for even if it be true that it matters not what is taught, it by no means follows that it is no matter how it is taught. The doctrine in question, however, supposes that the faculties are to be somehow strengthened by "going over," as it is called, a book or a science, without any regard to the manner in which it is done. The faculties are strengthened by the use of the faculties; but this doctrine has been quoted to shield a mode of teaching, in which they were not used at all; and hence has arisen a great amount of teaching, which has had very little effect, either in communicating knowledge, or giving efficiency to mind.

Let us, then, come to the truth of the question. It is important what I study: for it is important whether or not I know the laws of my being, and it is important that I so study them that they shall be of use to me.

It is also important that my intellectual faculties be improved, and therefore important that an instructor do not so employ my time as to render them less efficient.

3. Closely connected with these remarks is the question, which has of late been so much agitated, respecting the study of the ancient languages and the mathematics. On the one part, it is urged that the study of the languages is intended to cultivate the taste and imagination, and that of the mathematics to cultivate the understanding. On the other part, it is denied that these effects are produced; and it is asserted that the time spent in the study of them is wasted. Examples, as may be supposed, are adduced in abundance on both sides; but I do not know that the question is at all decided. Let us see whether anything that we have said will throw any light upon it.

I think it can be conclusively proved, that the classics could be so taught as to give additional acuteness to the discrimination, more delicate sensibility to the taste, and more overflowing richness to the imagination. So much as this must, we think, be admitted. If, then, it be the fact that these effects are not produced—and I think we must admit that they are not, in any such degree as might reasonably be expected—should we not conclude that the fault is not in the classics, but in our teaching? Would not teaching them better be the sure way of silencing the clamour against them?

I will frankly confess that I am sad when I reflect upon the condition of the study of the languages among us. We spend frequently six or seven years in Latin and Greek, and yet who of us writes—still more, who of us speaks them with facility? I am sure there must

be something wrong in the mode of our teaching, or we should accomplish more. That cannot be skilfully done, which, at so great an expense of time, produces so very slender a result. Milton affirms, that what in his time was acquired in six or seven years, might have been easily acquired in one. I fear that we have not greatly improved since.

Again, we very properly defend the study of the languages on the ground that they cultivate the taste, the imagination, and the judgment. But is there any magic in the name of a classic? Can this be done by merely teaching a boy to render, with all clumsiness, a sentence from another language into his own? Can the faculties of which we have spoken be improved, when not one of them is ever called into action? No. When the classics are so taught as to cultivate the taste and give vigour to the imagination, — when all that is splendid and beautiful in the works of the ancient masters is breathed into the conceptions of our youth, — when the delicate wit of Flaccus tinges their conversation, and the splendid oratory of Tully, or the irresistible eloquence of Demosthenes, is felt in the senate and at the bar—I do not say that even then we may not find something more worthy of being studied,—but we shall then be prepared, with a better knowledge of the facts, to decide upon the merits of the classics. The same remarks may apply, though perhaps with diminished force, to the study of the mathematics. If, on one hand, it be objected that this kind of study does not give that energy to the powers of reasoning which has frequently been expected, it may, on the other hand, be fairly questioned whether it be correctly taught. The mathematics address the understanding. But they may be so taught as mainly

to exercise the memory. If they be so taught, we shall look in vain for the anticipated result. I suppose that a student, after having been taught one class of geometrical principles, should as much be required to combine them in the forms of original demonstration, as that he who has been taught a rule of arithmetic should be required to put it into various and diversified practice. It is thus alone that we shall acquire that δυναμις αναλυτικη, the mathematical power which the Greeks considered of more value than the possession of any number of problems. When the mathematics shall be thus taught, I think there will cease to be any question whether they add acuteness, vigour, and originality to mind.

I have thus endeavoured very briefly to exhibit the object of education, and to illustrate the nature of the means by which that object is to be accomplished. I fear that I have already exhausted your patience, I will, therefore, barely detain you with two additional remarks.

I. To the members of this convention allow me to say, gentlemen, you have chosen a noble profession. What though it do not confer upon us wealth!—it confers upon us a higher boon, the privilege of being useful. What though it lead not to the falsely named *heights* of political eminence!—it leads us to what is far better, the sources of real power; for it renders intellectual ability necessary to our success. I do verily believe that nothing so cultivates the powers of a man's own mind as thorough, generous, liberal, and indefatigable teaching. But our profession has rewards, rich rewards, peculiar to itself. What can be more delightful to a philanthropic mind than to behold intellectual power increased a hundred fold by our exertions, talent de-

veloped by our assiduity, passions eradicated by our counsel, and a multitude of men pouring abroad over society the lustre of a virtuous example, and becoming meet to be inheritors with the saints in light—and all in consequence of the direction which we have given to them in youth? I ask again, what profession has any higher rewards?

Again, we at this day are in a manner the pioneers in this work in this country. Education, as a science, has scarcely yet been naturalized among us. Radical improvement in the means of education is an idea that seems but just to have entered into men's minds. It becomes us to act worthily of our station. Let us by all the means in our power second the efforts and the wishes of the public. Let us see that the first steps in this course are taken wisely. This country ought to be the best educated on the face of the earth. By the blessing of heaven, we can do much towards the making of it so. God helping us, then, let us make our mark on the rising generation.

OF MORAL EDUCATION.

BY J. DE SAINTEVILLE.

[From the Quarterly Journal of Education, No. XI.]

[THE Quarterly Journal of Education was first issued by the Society for the Diffusion of Useful Knowledge in January, 1831. It was intended to afford a means of recording the "great and interesting events of education, and for communicating the improvements which are made from time to time in the modes of acquiring knowledge." This has been attempted to be carried into effect by essays by various authors, and facts collected from various sources, foreign and domestic, on subjects connected with education in its widest sense, and by reviews of books treating on topics of instruction. The Society, however, guard themselves against being deemed answerable for every separate opinion. They say—"It will of course be their duty not to sanction anything inconsistent with the general principles of the Society. If, therefore, the general effect of a paper be favourable to the objects of the Society, the committee will feel themselves at liberty to direct its publication: the details must be the author's alone, and the opinions expressed on each particular question must be considered as his, and not those of the committee." Nine volumes of this work have now been published, containing a mass of valuable matter; the three following articles

have been selected from it, and we shall likewise draw upon its resources in several future instances.]

THE condition of the human race may be considered with reference to three great divisions, which comprehend its whole existence: these are its physical, moral, and intellectual state. At no period in the known history of the world have we any records of the mass of a people possessing, in any degree adequate to procure happiness, a supply of their physical, moral, and intellectual wants. At present, the most numerous class of beings which compose the human race are a prey to many physical sufferings; and all classes of society in all countries, both high and low, are *generally* void, we will not say of moral notions, but of moral habits.

The mode of instruction followed in schools, which *generally* has for its sole object the cultivation of the intellectual powers, is essentially defective and incomplete. And yet we see in all countries honourable and generous men uniting to extend knowledge, instruction, and useful information throughout society; and in England we see enormous sums annually expended with the professed and, we may fairly admit, the real object of diminishing human suffering, and improving human character.

The intentions of these true friends of humanity are certainly beyond all praise, and words are wanting to express the thanks they deserve; but the best intentions may err, if not in the design, at least in the means of accomplishing it. Now, we think that the way for the public teacher to fully accomplish his noble endeavours, and one day reap the delightful fruit of his labours and

his zeal, and indeed the way to make all instruction, both domestic and public, efficacious, is to let *intellectual* be preceded by *moral education*, or at least to combine them. We are, indeed, firmly persuaded that moral education is the basis, the foundation, and the test, not only of every system of instruction, but of the whole social edifice.

It is then to moral education, so much neglected in these times, that we must direct the skill, the attention, and the capacity of every one who devotes himself to instruction.

Instruction by itself is an instrument of which either a good or bad use may be made. That which is learned in elementary schools, and which consists in knowing how to read, write, and cipher, cannot exercise much influence on morals. In fact, we should be puzzled to understand how it would be possible to give a man regular habits and just moral sentiments, by merely teaching him to perform certain operations almost mechanical, such as reading and writing are. We can much easier imagine that even a superior kind of instruction, when purely intellectual, is likely to cause a multitude of social wants to spring up, which, if they are not satisfied, often incite to crime: for instruction multiplies the social relations; it is the soul of commerce and of industry; it also creates among individuals a thousand opportunities of fraud or bad faith, which do not often exist among a rude or ignorant population. We will admit that the cultivation of the intellect *alone* has *some* effect, in so far as it tends to make immediate impulse yield to reason, and tends also to form *some* habits of order and industry. But it is at least *insufficient.*

In England*, in France†, in Germany‡, in the United States§, where a few years ago the happy influence of knowledge upon moral improvement was so much extolled, it is already acknowledged that it is not enough to establish schools in order to stop the progress of demoralization, and that it is necessary to seek out speedily some remedy for the evils which disorder society‖.

* Minutes of Evidence taken by the Committee appointed by the House of Commons to inquire into the State of Mendicity and Vagrancy in the Metropolis and its Neighbourhood. Ordered to be printed 11th July, 1815—1816.

Mr. Hume's Speech in the House, 1st July, 1812.

Mr. Brougham's Speech, 28th July, 1820.

George Harrison on Education.—*Edinburgh Review*, Nov. 1810.

Livingston on Prison Discipline.

† Rapports de la Société Philanthropique de Paris.

Plan de l'Education pour les Enfans, par M. de Laborde.

Rapport de M. Barbé Marbois à la Société Royale des Grisons, 1815.

Du Système Pénitentiaire, par Lucas.

Etablissament et Direction des Ecoles primaires gratuites d'Adultes, etc. par M. Basset.

‡ Journal de la Société de la Morale Chrétienne, No. 73.

§ Letters on the United States, by Cooper.

‖ Two magistrates of the Cour Royale of Paris, who have recently made a tour through the United States of North America, where, in the course of two years, they have collected a considerable number of documents of the greatest interest relative to the application of the penitentiary system and to criminal statistics, report that, in the state of New York, five hundred thousand children are educated in the public schools out of a population of two millions, and more than two hundred and forty thousand pounds are annually expended for this purpose. It would appear that an enlightened population, which is not in want of any of the capital which agriculture, commerce, and manufacturing industry offer, ought to commit fewer crimes than a population which possesses the latter advantages, without having the same knowledge to turn them to a good account; yet we do not think that the diminution of crime in the north should be attributed solely to instruction. In Connecticut, where education is still more extended than in the state of New York, crimes are seen to multiply to a frightful extent, and if we cannot blame knowledge for this prodigious increase of crimes, we must at least confess that it has not yet the power to prevent them.

It is not our intention here to attempt a complete essay on education; all we propose is, to fix the basis of a good system of instruction, by putting moral education before all other kinds of education, as indeed it seems to us to claim the pre-eminence.

It appears that three conditions are necessary to enable a man to decide as to any course of action, and at the same time to decide well. He requires something to excite him, such as wants, instincts, feelings, or imagination; something to enlighten or direct him, as intelligence and reason; and lastly, he requires an inward strength which renders him capable of submitting instinct to intelligence, the exciting to the directing faculties, and hasty determination to mature reflection.

Without imagination and instincts, a man would not act at all. Without reason and intelligence, he would be in danger of acting ill, and if he had not the power of subjugating passion to reason, of what use would reason be to him? It would be better for him to have been confined to the simple impulses of nature like the brutes, than to have received reason without the power of profiting by it. Reason, if he had not the power to follow its dictates, would only serve to embitter his life, and fill it with useless remorse.

These three orders of faculties, *feeling*, *understanding*, and *virtue*, are not developed at the same time. At first, man only follows his imagination and his passions, and his early determinations are all instinctive. Afterwards his understanding is formed; but habit and inclination continue to make him follow the track of his first impressions, and he persists in doing evil a long time after he is convinced that he could do better. At length, but slowly, he learns to make his actions

coincide in some measure with his understanding, and the impulses of passion with the dictates of knowledge.

The development of his activity follows precisely the same track whatever direction it may take; that is to say, in his actions as in his conduct, in his relation to things as in his relation to himself or his fellow-creatures, he always begins by acting instinctively; then experience begins to warn, and observation to instruct him, and at last he learns to act consistently with his judgment; he does not suffer himself to be led so blindly by his feelings, and his actions are distinguished by less impulse and more reflection.

Now, in what way can his activity become *moral*, and when may we say that it is so?

The adjective *moral* is evidently derived from the Latin *mos*, *moris*, *moralis*. Taking this word then according to its etymology, it would appear that we ought to apply it to every mode of action which has become a habit, custom, or practice, and that we should call an action *moral* when it is habitual, and the constant practice of the people or the individual who performs it.

This, however, is not the case; for, in the first place, we do not call those actions which relate to labour *moral*, however regular and habitual they may be; we reserve this qualification for those which relate to *conduct*. We make a distinction between the *morals* of a people and their *skill;* and whatever name we may give to those habits which direct us in the conduct of life, we do not always say that these habits are *moral*. We only give the name of moral to those habits which govern us when they are worthy to govern us, to serve us for rules, and are proper to form our character or manners. It is universally acknowledged that there are moral habits or manners, and immoral habits or manners.

Thus, as long as our activity is confined to mere labour, as long as it is confined to industry, skill, dexterity, and intelligence, it can neither be moral nor immoral; whether our labours are governed by one unchanging routine, or are in a state of progressive amelioration, they are equally destitute of morality. We may say of an ingenious workman that he is clever, but that does not mean that he is moral; of an orator, that he is eloquent; of a professor, that he is a man of talent, but we do not say that they are moral. Once more, we repeat, this qualification is only applicable to those of our actions which relate to the *conduct of life*.

Again, with respect to conduct, we must observe, that it is not moral while a man's resolves are purely instinctive, and so long as he only follows the impulses of desire, passion, and feeling. Indeed, it is well known that the best feelings may lead a man to do wrong. It is possible that love, friendship, and paternal tenderness may induce a man to commit bad actions: much more then would those feelings which are usually connected with terms of dispraise, such as self-love, hatred, anger, pride or avarice, if he gave himself up to their impulses, lead a man to that which is criminal; though even these feelings are capable of producing happy effects if well directed. In general, our affections, which are almost all good, and worthy of being cherished as stimulants and moving powers, are of no value as directors; and a line of conduct which is only governed by feeling, is very far from deserving the name of moral, as there is no one of our feelings, even amongst the most pure and sympathetic, which does not indispensably require to be regulated.

Further, a man's conduct is not called moral, simply because his feeling is enlightened by intelligence. He must doubtless learn to know what is good before he is

capable of doing good; but, because he learns to know it, it does not follow that he is able to practise it. Demonstrate to a man as much as you please that virtue consists in a certain line of conduct, it is still very doubtful if he will follow it: it is highly probable that, although he knows what is right, he will continue to do wrong. Such is the effect of the disposition of the greater part of mankind.

We know what a wide difference there is between an educated man and a virtuous man, between a man who merely knows what morality is and a moral man; and how much remains for us to do in order to become honest and honourable men, after we have perfectly understood in what honour and honesty consist.

Our conduct, therefore, is not moral so long as we live under the dominion of feeling, because our feelings are liable to lead us astray every moment; nor does it become so by merely enlightening the understanding, for knowledge in the understanding does not necessarily excite the faculties or the heart, and the perception of that which is good does not always give strength to do it. We only become moral men when we accustom our affections and talents to be directed by reason. It is a work that stands alone, a work totally different from that which has for its object the awakening of our sensibility, and from that which tends to perfect our knowledge: for the artist excites our feelings in vain, if he does not teach us the knowledge of what is good; and the philosopher enlightens us in vain, if he does not accustom us to practise it. It is absolutely necessary that, while art moves our feelings, and science instructs our understanding, another kind of labour should teach us to submit our passions to the counsels of reason.

Such is properly, or such at least ought to be, the object of that art which proposes to make us acquire good moral habits. Practical morality certainly requires that our sensibility should be awakened, and our intelligence perfected, for virtue is only composed of feeling and reason; but the grand point, which is totally distinct from the two former, consists in *accustoming* our feeling faculties to act consistently with what is taught by our intellectual faculties; it consists in making us acquire, by certain exercises, the habit of coming to a good resolution, just as art and philosophy consist in accustoming us, also by practice, the one to have a nice perception, and the other to exercise a sound judgment.

We may observe in society several classes of persons and professions, who labour, or have attempted to labour, for the formation of morals. This is, or ought to be, one of the principal objects of domestic education, and of that of schools. This also is the principal object that should be aimed at by those who profess to teach of things relating to a future life; those who, under all systems of religion, devote themselves to the office of the priesthood. Indeed, government has no duty more imperative, no task more important, than that of forming the morals of the people; and if the immediate object of its intervention is to settle quarrels, to put a stop to or remedy disorders, its true and final duty is to prevent all these evils by endeavouring to correct the vicious habits which produce them. But to return to our subject: moral instruction we consider to be an integral and essential part of all education.

The first thing that strikes us in the present day, when we reflect upon domestic education, and especially that of schools in their relation to the formation of

morals, is either the total want of such schools, or their insufficiency with reference to this object.

We do not speak of a speculative and purely intellectual inculcation of morality. We do not say that the education which is obtained in boarding-schools entirely neglects to instruct us in what we ought to do, and what we ought to avoid. It is quite true that our memory is charged with the names of a great many vices and virtues, and that we are told something of the evils which result from vice, and the happiness which proceeds from virtue, with the motives which we have for abstaining from the one, and for practising the other. But this instruction is extremely imperfect. Many actions are recommended as good, which are indifferent or really bad: many motives are assigned to good actions, which are either insufficient or vicious. This mode of instruction, however, does exist, and, right or wrong, we exercise our talents on morality in the same way that we exercise them on a multitude of other subjects. But it is *only* our talents that we thus exercise. It is, if you please, a part of the education of the understanding, a branch of a course of philosophy, but it is nothing more; the impressions we receive in relation to this do not extend to our *will;* we are not taught to practise the good which we are taught to comprehend; in a word, the great thing that education neglects is *the formation of character and morals.*

This neglect is so apparent, that it is difficult not to perceive it; but it becomes particularly striking when we consider the care bestowed upon our other faculties. How many arts are occupied in preserving and bringing to perfection our physical and intellectual powers! What a variety of exercises are given to our talents! What a length of time devoted to their culture! The under-

standing of a youth is kept fully exercised for twelve or fourteen hours a day: he is made to go through a course of Greek, Latin, elocution, logic, mathematics, chemistry, natural philosophy, &c. But while whole days are given to the exercise of his understanding, scarcely a moment is employed in educating his will. It is the same with girls. What are they not taught in the present day! Masters of every description strive to fix in their memories all kinds of knowledge, and to impart to their bodies and limbs graceful forms and an easy carriage; but we can hardly say that they form their hearts to the practice of a single virtue. The education we receive in schools may perhaps teach us to discuss the precepts of morality; but we can hardly say that it teaches us to observe them. We learn how to argue, not how to live.

"We wait till our life has passed away," says Montaigne, "to learn how to live;" and he adds—"Le soing et la despense de nos pères ne visent qu'à nous meubler la teste de science, et pour ce qui est de la vertu, peu de nouvelles. Criez d'un passant, ô le savant homme! et d'un autre, ô le bon homme! Notre peuple ne manquera pas de tourner ses yeux et son esprit vers le premier*." "Diogène pourrait encore se moquer des musiciens qui savent accorder leurs flutes et qui ne savent pas accorder leurs mœurs; des orateurs qui s'escriment à disputer sur la justice, et qui sont incapables de la pratiquer†." "Me veulx-je armer contre la crainte de la mort? C'est aux despens de Seneca. Veulx-je tirer de la consolation pour moy ou pour un aultre? Je l'emprunte de Cicero. Je l'eusse prinsse en moy-mesme si l'on m'y eust exercé‡."

* Essais, tom. i. ch. 24.—*Du Pédantisme.* † Ibid. ‡ Ibid.

It is, however, true, that neither our minds nor our bodies can be educated without the concurrence of our will, and, consequently, not without accustoming this faculty to desire that which the others ought to do, and without labouring more or less to give it instruction. Our education, such as it is, by compelling us to perform a certain work, necessarily inculcates certain virtues. Every kind of labour requires us to have a certain command over ourselves; every kind of labour exercises our patience in a greater or less degree, and makes us acquire habits of activity, application, and a sort of regularity, &c. Besides, education cannot develope our sensitive and intellectual faculties, without at the same time acting indirectly upon our will; it cannot awaken good feelings in us without exciting us to do good; it induces us in some degree to practise it, simply because it makes us know what it is, and shows us the advantages we may derive from it.

We also admit that this education is not absolutely confined to telling us what we ought to do: we are stimulated also to put it in practice by a more or less judicious custom of praise or blame, reward or punishment. The single circumstance of the pupils in a school living together has, to a certain extent, the effect of reforming that which is violent or unjust in their wills, for each of the pupils is more or less restrained by the rest, and obliged to check his evil dispositions.

The result of education, then, is to render our habits more or less moral, though it does not directly keep that object in view. But what we condemn in it is precisely that it does not make the formation of our moral habits a special object, because it does not subject the will, as it does the understanding, to regular exercise, and does

not reduce virtue to a science, like knowledge; although it is very well known that if it is necessary to study a science, it is much more indispensable to serve an apprenticeship to virtue.

This absence in education of exercises suited to form our moral character has been growing more striking ever since those changes in our social life which have deprived the Church of much of its former influence in Europe. While men were entirely under the influence of the Church, we observe that exercises were enjoined which were analogous to what is, in our opinion, now required. To the observance of duties purely religious there were united certain usages, which might be considered as exercises suited to correct our evil inclinations, and make us acquire good habits. The exercise of prayer, the being obliged to retire and present ourselves frequently before God, good resolutions taken in the morning, self-examination in the evening, the confession of our faults to God or to our spiritual guide, whom we consulted on the mode of correcting our moral imperfections,—all these things had undoubtedly this object in view. We shall not enter into a particular examination of these practices; we simply state that they did exist, that their aim was to correct our morals, and that, under this system, to know how to live was generally the object of a formal labour, and an express and positive study. But in proportion as this system decayed, the exercises we speak of were neglected: by degrees the form alone was attended to, while the true sense was forgotten; and what now remains of religious instruction is, in many schools, nothing more than a mere form, more fitted to demoralize the youthful mind than to inspire it with sentiments of religion and virtue.

Generally speaking, then, this religious *discipline* has been abandoned, but in giving it up it has not been replaced by a substitute; and in the education of the present day, the only thing that strikes us relative to moral habits, is, as we have said before, the almost total absence of those exercises which are proper to form them. The only thing now thought important is to enlighten the understanding, and keep it constantly in exercise. It is from this that everything seems to be expected. We seem to think that the labour bestowed on the mind is sufficient to correct the faults of the character, and that the diffusion of knowledge must necessarily be accompanied by a reform in morals. These ideas are so thoroughly established, that the only thing, for example, that seems to be thought necessary to ameliorate the condition of the poorer classes of society is the diffusion of primary instruction. It is supposed that these classes will become more moral, simply because they possess the rudiments of knowledge, and that in fact the number of delinquents in a given population is always in proportion to the number of individuals who can neither read nor write. This requires a little examination.

On what basis is this opinion founded in France? On the observation, that in those departments where instruction is most diffused, the fewest crimes are committed. But is this the case? Let us look at the whole question. To come to a conclusion, it is necessary to determine exactly the distribution of instruction, and that of crimes, in the different parts of the kingdom, during a certain number of years. We have now a sure method of knowing the extent of the diffusion of instruction. Ever since the census taken in 1827, the Minister

of War subjects all the young men who are called to serve in the army to an examination, so that the number of those who can read and write is known at the moment their names are drawn. It is from the observations made on this subject during three years that a table of the comparative proportion of instruction in the different departments has been formed. This table deserves the greater confidence, because it includes, during the same space of time, men in all classes of society without distinction. What strikes us at first, when we cast our eye over the table, is the *clear and luminous character* almost universally extended over the thirty northern departments. In some of these departments, among a hundred young men, whose names are on the lists, they reckoned from seventy-one to seventy-four, or nearly three-fourths of them, who were able to read and write. It is not in the southern provinces, as it is asserted, that the greatest ignorance is found, but in the western and central provinces, in Berri, Limosin, and Bretagne. Among a hundred young men of the department of Finistèrre, there were only fifteen who knew how to read and write; in Morbihan, fourteen; in Cher, Haute Vienne, and Allier, thirteen; while in Corrèze only twelve were found, or about one-eighth part.

In the island of Corsica, which was thought far behind the other departments in point of instruction, half the young persons, forty-nine in a hundred, can read and write. There are sixty departments which have not come up to this proportion.

Let us now look at this table in reference to crimes against persons and property. According to the Essay on the Moral Statistics of France, recently presented to

the *Académie des Sciences*, the *maximum* of crimes is committed in the island of Corsica, in the south-eastern provinces, and in Alsace. Is it in these places that there is the most ignorance? Our table of the proportion of instruction furnishes proof to the contrary. Again the *minimum* is found in the western and central provinces. Can it be said that it is here where most instruction is diffused? It is, therefore, evident that the coincidence above-mentioned does not exist.

Unfortunately, then, this supposition is not true; but even, if it were, it does not seem to us to be referred to its proper causes, or at least to all of them. There are several good reasons why fewer crimes should be committed where there is a greater number of persons who can read and write. The fact of a population being more instructed, supposes it to be in more easy circumstances, less exposed to the temptations incident to want and misery, and to consist of a greater number of well-regulated families, among whom good examples are found. In order for this population to know how to read and write, it is necessary for it to have passed some time in schools, where it has been superintended, restrained, and obliged to conform to certain habits of order and discipline. The talent it has acquired allows it to read books from which some good stimulus may be obtained. It is not, therefore, surprising if it should be less disposed to evil, and should commit fewer crimes; but this result, when obtained, is not *solely* due to the little literary instruction which it has received. It is not a necessary consequence that there should be a union between the art of reading and the virtue of good behaviour, nor even generally between talent and virtue.

In order to act right, it is certainly necessary to know

what is right; but it is well known what a difference there is between the knowledge and the practice. To practise the good we know is a very different merit from that of only knowing it, and is not acquired by the same means. We can be made learned without being sure of being made moral, and we know that the greatest casuists are not always the most estimable men.

It follows, therefore, that there is something extremely erroneous in that disposition of mind which leads us in the present day to expect the perfection of morals solely from the cultivation of the intellect, and which induces us to neglect in education, as useless, all effort and every exercise which makes their formation its immediate object.

But it does not follow that, because there is nothing established in schools to effect this object, it cannot therefore be attained; that because the art of forming morals can scarcely be said to exist at all, it is therefore impossible to form them. Virtue may be taught and learnt as well as anything else. What says Plutarch? "Men can fit themselves for everything, and yet we cannot teach them the art of living well in the world! Men learn to sing, to dance, to read, to write, to dress, to cultivate the earth, to subdue the fiery horse; and yet that for which all other things are learned—a well-regulated and orderly life, and practical wisdom—depends entirely upon chance, and is the only thing that can be neither taught nor learned!"*

Montaigne observes, after Xenophon, that the Persians taught their children virtue as other nations taught their children letters. Rousseau is of opinion

* "Virtue may be taught and learned."—*Moral Works*, chap. vi.

that there is no virtue to which we cannot serve an apprenticeship; and adds, further, that constancy, firmness, and the other virtues, are the apprenticeship of childhood. This novitiate is certainly not easy, but it is possible. Every one has not the same disposition for it; we are more or less qualified for virtue as we are for science, we are more or less fitted for a particular virtue as we are for the study of a particular science; but there is no virtue to which we cannot in some degree form our will, as there are no ideas with which we cannot in some measure familiarize our understanding.

We can not only learn virtue, but we know what are generally the means of being successful in the study. It is by practice. "Vouldrais-je," asks Montaigne, "que le Palluel où Pompée, ces beaux danseurs de mon temps, nous aprinssent les caprioles à les voir faire seulement, et sans bouger de nos places?"* Well, then, if we cannot learn to cut capers merely by seeing them performed by others, much less can we learn virtue from only seeing it practised. Locke observes, "It seems plain to me that the principle of all virtue and excellency lies in a power of denying ourselves the satisfaction of our own desires where reason does not authorize them. This power is to be got and improved by custom, made easy and familiar by an early practice†." "Children," adds the same writer, "are not to be taught by rules, which will be always slipping out of their memories. What you think necessary for them to do, settle in them by an indispensable practice, as often as the occasion returns; and if it be possible, make occasions. This will beget habits in them which,

* Essais, tome i. ch. 25, de l'Institution des Enfants.
† On Education, § 39.

being once established, operate of themselves easily and naturally, without the assistance of the memory."*

It is true that those philosophers who are most decidedly of opinion that the will can only be formed by exercising it, and calling it into action the same way as the understanding, are very much puzzled to say what those exercises are which are best calculated to discipline this faculty: how, for instance, to teach courage, patience, sobriety, justice, &c.; and yet, notwithstanding all this, there is no doubt but that there are methods for regulating the will, and there are means of forming our manners. There are persons who are particularly qualified to form the character, as there are others who are especially fitted to educate the mind. There might be establishments for the former of these branches of education, under the superintendence or direction of professors who might take the title of *educators*, in the same way that seminaries now exist for the second branch, which are in the hands of *instructors*; or at least the schools established for the education of our intellectual faculties might be so arranged as to include the cultivation of our moral faculties, which object is almost effected in the admirable institution of Zellweger, in the canton of Appenzell in Switzerland, assisted by M. Krusi, one of the teachers of this institution, and an old friend of Pestalozzi's. What should prevent a course of virtue or morality (which are synonymous) from being gone through in a well-organized school, as well as a course of science, or a course of gymnastics.

We see in the Memoirs of Benjamin Franklin, that at the period of his life at which he formed, as he expresses himself, "*the bold and difficult plan of arriving*

* On Education, § 66.

*at moral perfection**," he was able to unite to his labours and studies a practical course of study in the principal virtues in which he felt it necessary to improve himself. Nothing could be more ingenious and simple than the method he adopted. He drew on an ivory tablet, which he always carried with him, a certain number of lines transversely, in the margin of which were written the names of the different virtues which he wished particularly to acquire. These lines were intersected by seven perpendicular lines, with the days of the week written at the top. On this tablet he prosecuted his task. He rigorously devoted his attention for an entire week to each one of the virtues inscribed in the margin of his tablet, leaving all the others to take their chance, and he carefully noted the faults of the day every evening. The following week he turned his attention to the virtue which he had placed in the second transverse line, the next week to the third virtue, and so on to the end of the list. He thus went through a complete course in thirteen weeks, and four courses in a year. As he persevered in these useful exercises, he had the satisfaction to see the marks which noticed his faults become less numerous, while he made actual progress in morality. What is to prevent a similar plan from being adopted in schools of both sexes? Why should not a table of the good habits we wish to be inculcated be drawn up for each class according to the age of the pupils? Why not let each of the virtues in its turn become, for a specific time, the common study of all the children in the same class? Why not excite their emulation to practise it by persuasion, and gentle, affectionate, and sensible exhortation? Why not notice the efforts osten-

* See his Life and posthumous Works.

sibly made by each pupil to attain to it, and accustom them to examine their youthful consciences every evening themselves, and to recall to mind the faults they have committed during the day? The efficacy of these plans might be increased by a judicious use of all those stimulants which are suited to make the will act in the direction we wish it to take,—by mildness, by *good example*, by appeals to the good feeling of the pupils, by exercising a careful influence over their reason, by explaining to them with simplicity and truth the consequences resulting from good or bad habits, by teaching them how habits are acquired or lost, how much easier a first action or a first self-denial renders a second, how we may accustom ourselves by degrees to perform actions or suffer privations which at first sight appeared to be painful, &c. It is easy to perceive that so difficult an art as that of a practical moralist is not to be learnt in a moment; and though it is hard to say *all* that ought to be done, it is quite clear that *something* can be done. It would be easy, for instance, to inculcate such a love of truth as would influence a child's conduct through life, and form the basis of a good and decisive character. The misfortune at present is, that most children are brought up without any character at all, and of course are subject to be influenced by such motives as circumstances present to them.

If, then, little time and attention are bestowed, in most schools, on the formation of moral habits, we must allow that it is not for want of means, but because the means are not used. There is no doubt but that schools might as well be appropriated to the education of the will, as to that of the understanding; we might be taught the art of leading a virtuous life, as

well as the art of reasoning correctly; we might learn order, justice, sincerity, foresight, and the government of the passions, in schools, as well as arithmetic, grammar, and rhetoric; and we might make as much progress in the practice as in the theory of morality.

If we are assured that virtue may be reduced to a science, it is not the less certain that this science is of a nature to exercise the most extensive and salutary influence upon society.

We all know what an indispensable element in social life good habits are. We cannot be ignorant that, of all the elements which enter into industry, private and civil virtues are the most indispensable; for labour without good habits hardly ever produces any result which is beneficial to the moral state of society. We need not say how important to all other arts are those which strive directly to produce virtue; how much real value they impart to man, and what power and facility in action they procure for him in everything which he has to do. This is a fact that needs no development or proof.

But those arts which tend to the formation of our moral habits are not only important because they render all others easier, and supply them with the most essential ingredients of their freedom of action, but they have a more immediate utility. Like all other sciences which exercise an influence upon man, they have the advantage of immediately cultivating his intellect, and are perhaps those of all others which contribute the most to its improvement.

There are some sciences which are devoted to the amelioration of man's physical condition; others labour for the excitement of his imagination and his affections,

and others apply themselves to the development of his intellectual faculties; but if it is important for him to be healthy and handsome, full of active perception, and intelligent, of how much greater importance must it be to him to become virtuous? And those arts which teach him to submit his imagination and feelings to the dictates of his understanding are indisputably, among all which aim at his improvement, those which contribute most to his dignity and happiness.

Virtue, that inward power, which, without stifling our natural affections, gives us the ability of restraining them within the limits prescribed by an enlightened judgment, virtue is the most noble and precious of all our faculties. Without it there is nothing but disorder or weakness in our actions. Virtue alone has the power to prevent our reason from being a barren gift, and our passions a hurtful one. It deprives our passions of their poison, and reason of its impotence: it makes feeling serve to animate and excite our reason, and reason to elevate and direct our feelings. Virtue thus corrects the two orders of faculties, the one acting upon the other, and it equally perfects them both.

Those passions against which so much has been said may all contribute to the perfection of our being,—even those which are taken in a bad sense, and generally denominated evil. *Hatred* becomes a good feeling when it is only directed against vice; it is commendable in a king to show himself *sparing* of the blood and treasure of his subjects; *pride* may preserve us from baseness; *self-love* may be in a certain sense justifiable, and so on. But on the other hand all passions may debase and render us miserable; even those which are the most estimable may produce injurious effects. What

shameful disorders have been caused by bigotry, and the wrong direction of religious feeling! How much vice and misery mistaken charity develops! What crimes and madness even love has occasioned, the most tender and benevolent of all the passions! All our affections, therefore, are alternately good or bad, salutary or hurtful, according to the direction we give them. It is the effect of virtue, and of those arts which bring it forth, to deprive them of what is evil by keeping them within proper limits. It is the peculiar property of those arts so to modify our inclinations as to induce us always to act in that way which is most conformable to our real good, and consequently to our happiness.

If they act usefully upon our passions, they do not exercise a less salutary influence on our reason. We have before observed, that it is possible to be well versed in the theory of morals, without being necessarily a moral man.

"Postquam docti prodierunt, boni desunt."

"Since learned men have abounded, good men are scarce," said an ancient moralist. Science, however, is not an obstacle to virtue; and Seneca is decidedly wrong in representing knowledge as the enemy of virtue, since our best feelings need to be enlightened to prevent us from acting wrong. But although science is not opposed to virtue, we must allow that it is not sufficient to produce it. We know how common it is to see men of learning who are deficient in morals; men who are chaste in their conversation, and very irregular in their habits; men who are very liberal in theory, and extremely unjust and despotic in practice; men very lavish in all that concerns themselves, but cold and selfish in relation to the well-being of others.

This contrast of an enlightened understanding and uncultivated morals will always be the more striking among a people who have paid the greatest attention to the former, and have neglected the improvement of their habits in the same proportion as they have bestowed their time and care on the perfection of their reason.

This is precisely what we have done in the present day. It appears that the formation of morals was never less attended to than since we have been so zealously occupied in the diffusion of knowledge. It is this imperfection in our habits, compared with our extended information, which doubtless makes so many persons think that the progress of knowledge is injurious to well-regulated habits; a very unreasonable idea, it is true, but one which can only be removed by new methods of instruction founded on the science of moral education. It is the province of this art to remove that contradiction which is thought to exist between morals and knowledge, and, by taking as much pains to bend the will to the direction of the understanding, as other arts and other modes of instruction devote to the development of the understanding itself, to remove the anomaly of an enlightened mind which has no power over its own conduct; to teach reason what it has the capacity to learn, by making it acquire that power of will which gives the finishing stroke to its cultivation, and without which all it has learned only serves to make it feel its own weakness, and its natural and humiliating dependence on the passions.

The art which labours to make our desires agree with our knowledge, not only removes us from a very humiliating state, but also delivers us from a very painful one. What can be more painful than the war which

our reason and passions carry on within us—than the state in which our *moi* (self), as Buffon remarks, appears to be shared by two persons; one of whom, namely, the reasoning faculty, blames what is done by the second, without being strong enough to counteract it; and the second, that is, the faculty of passion, does what the former condemns, without being able to escape from the judgment which its other half forms of this conduct, and which opinion embitters all its pleasures? What can be more miserable than a learned man who cannot govern himself—than a man whose judgment combats against a bad action, but is yet drawn on by his inclinations to do what his mind condemns? It would be better to be without either feeling or reason altogether, than to be thus tossed about by opposing faculties. But what is far better than being without passion or reason, is to possess at the same time the sensitive and reasoning faculties, when a good moral education has afforded us the requisite strength to submit the former to the guidance of the latter.

The art which gives us this power, the art which develops this class of faculties in us which we call virtues and moral habits, is undoubtedly that which procures for us the most perfect pleasures. All others want something: the pleasures of sense are gross and evanescent; those of passion are filled with trouble and anguish; those of the understanding are mingled with insipidity; the pleasures of virtue alone are perfect. These pleasures, without excluding others, exclude that which corrupts them; they are composed, above all, of that security, tranquillity, and elevated satisfaction produced by self-command, and the habit of only yielding

to our affections that which an enlightened understanding approves.

Thus the art of the practical moralist, or *preceptor*, has not only the effect of creating an order of means indispensable to the freedom of all the rest, but gives us the most important of all instruction. Whilst the other kinds bring our physical organs to perfection, cultivate our imagination and affections, and enlighten our understanding, this teaches us to submit the faculties which move us to those which ought to direct us, and to make a judicious and moderate use of both. In this manner it preserves them all, and renders the various pleasures which they procure for us more lively and permanent; and this constitutes happiness, the thing which all desire and few attain.

EARLY EDUCATION.

By Mr. BARWELL.

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Early education comprises the elements of the future happiness or misery, virtue or vice, greatness or goodness, of the individual; a truth perhaps hardly sufficiently considered, otherwise education would be less frequently entrusted to the weak, the ignorant, or the injudicious. The stability of a building depends upon the firmness of its foundation; the virtue of man upon the excellence of his early education. It is true, that the grandeur, beauty, or utility of the finished structure may alone be observable; but the judgment and skill of the architect must have been equally exercised in the foundation upon which the edifice is raised. Whether we believe children to be born with evil dispositions, or whether we consider all their ideas and dispositions to be acquired notions,—education must equally correct the one, or form the other.

The phrase "elementary education" would seem, in its ordinary acceptation, merely to apply to instruction in reading and spelling; but the child who is unmanageable in the nursery will be unmanageable in the school-room, and activity of intellect will be fostered or deadened, according to the nature of the early discipline, before the child has learned to speak. It is impossible to separate moral from intellectual education; intellectual cannot be efficiently conducted independent of moral education, and we maintain the converse to be equally true. That development of the faculties, which

is necessary to the acquisition and application of knowledge, is equally essential to the acquisition of morality —reason and observation are as important in the one as in the other: thus the two branches, although apparently distinct, grow from the same stem. He who cannot reason, and whose perceptions are dull and torpid, will be no more moral than he who only possesses a well-stored memory will be a really wise man. It follows, then, that the faculties which enable us to act from virtuous motives, and the faculties which are employed in the acquisition of knowledge, are originally the same; and a well-regulated education will begin by practically cultivating those faculties, since from them are to spring all moral as well as all intellectual results.

Early education is almost universally in the hands of females, according to a wise provision of nature; their habits and characters being peculiarly adapted to the purpose. Women are naturally devoted to the minor operations of life; they can dwell with interest and patience upon the trifles that make up the lives of children, and it is upon the direction of these seeming trifles that future greatness (and this term also includes goodness) will depend. The present artificial system of female education very much unfits women for the task which nature has so clearly assigned to them; gentleness, placid firmness, evenness of temper, watchfulness, tenderness, and that quiet discretion, which is usually called good sense, are the characteristics of an unspoiled woman; and surely these are the qualifications which are best adapted to check the peevish and violent, to encourage the idle or timid, and, above all, to give an example of what is virtuous and rational to those little

beings whose future happiness depends so much on a mother's care and discretion.

The first six years in the lives of children demand as much or more watchfulness on the part of their guardians than any other period of their youth; yet it is generally believed, that if they be carefully fed, clothed, washed, and taught to read, or rather made to stammer over a book, the duties towards them are perfectly fulfilled; if they should have become wilful and unmanageable, (and this is a general case,) they are sent to school to be corrected, because little master or miss cannot longer be controlled at home. At school, as elsewhere, the influence of a bad example is as powerful as that of a good one, and unless unremitting vigilance be exercised, the innocent minded will be corrupted by their associates. Fear of personal chastisement, or severe punishment, produces habits of deceit, and those are the happiest and the most honoured who are most successful in deceiving their instructors. What will be their struggles, when, at a riper age, they perceive and would correct their errors! How much more severe are the pangs they will then suffer, than the rational privations and restraints of childhood would have inflicted! And how many are there who never arrive at a sense of their moral degradation! Let it also be remembered, that the evil goes on increasing; for persons so educated, and so dead to moral virtue, will assuredly "visit the sins of the fathers upon the children."

Parents, and mothers most especially, must learn that their parental duties have not ceased when the personal comforts of their children are provided for; that it is on *their* example, *their* attention, *their* firmness, that much of the moral worth of their offspring depends.

Whatever be their situation in society, all, or nearly all, have the means of inculcating and enforcing the early and habitual practice of virtue. The nursery, the school-room, and the world, are alike the scenes of evil passions, restrained or encouraged, corrected or triumphant; but in the first there is a presiding power, which will retain or lose its influence in the subsequent scenes of life, according as it is well or ill employed in the first and opening stage: a power which will be silently, but deeply acknowledged, reverenced, and remembered, in after years, when its worth can be appreciated; and its effects manifested—this power is possessed by every sensible, judicious, and wisely affectionate mother; and let her deem it as one of her highest privileges, that to her is confided the happiness of implanting those seeds of virtue and morality, upon the culture and growth of which will depend the future welfare of her children.

It is impossible to lay down systems of education, which shall embrace all particulars; a *general* system may be recommended, subject to the modifications which the various characters of children demand. But as no precise and universal rules can be given, it is the more important that early education should be confided to judicious persons, whose conduct is regulated by the motives which they wish to inculcate, and whose judgment is clear, firm, and mature.

The first manifestations of the dawnings of reason are shown before the power of speech is attained; children signify by imperfect sounds what they desire to obtain, and become violent when their wishes are not complied with. It is the mother's part to watch the moment when she can make the little tyrant comprehend that

desires so expressed will not be gratified, and to show that a contrary mode of conduct will be successful, when the object desired is not considered improper. From this point she must proceed, step by step, until she makes her pupil know by repeated experience, that he is not to obey his first impulse, and that self-control, a thing which even an infant can comprehend, is necessary to his own comfort. Example has been pronounced the best instructor in the arts; and so it is in education. Those who undertake that great and interesting duty must first learn to know themselves, and to command themselves. An angry look, a violent action, an over-harsh word, will undo hours of advice upon the necessity of a well-regulated temper. Unreasonableness, irregularity, *insincerity*, and indolence of mind or body, will overturn precepts however well worded and judiciously expressed.

Theory is only comprehensible to a child when illustrated by practice. "I shall do or say so, because mamma or papa does or says so," is an unanswerable argument, and an excuse for or a defence of what is wrong. "*Do as I say, and not as I do*," is unintelligible to a child. Parents or preceptors are at first supposed by their children or pupils to be perfect in conduct; their very authority and power invest them with a dignity, which, in the innocent minds of children, presupposes virtue. When, therefore, they perceive in parents or instructors any deviation from the rules laid down for their own government, the opinion as to their virtue sinks as much too low, as before it was too elevated.

The operations of a child's mind are sources of deep interest, and it is with and upon these that the instructor

has to work. Repetition of acts, association, and affection, are the foundation of habits and opinions, as soon as the perceptive powers are called into exertion. An infant that has been regularly accustomed to eat and sleep at particular hours will, in a very short time, become hungry and sleepy at those hours. It is happy when in the arms of those to whom it is accustomed, uneasy when with strangers; its agreeable feelings are associated with those with whom it is at ease—this then is the result of habit.

The association of pleasure with what is right, of pain with what is wrong, is in fact the true foundation of reward and punishment; reward and punishment should grow, if possible, out of the acts which have deserved either; the commission or omission, whether of good or evil, should lead to its own penalty or reward. Severe measures can never be necessary, except where there is crime; but this presupposes total early neglect. To reward is less difficult than to punish; the former may be founded on affection and conscience, for the consciousness of rectitude, where a love of right is instilled, is as strong in childhood as in manhood; and where self-control is a ruling power, self-approbation and the praise of the loving and the loved will be all-sufficient.

The time at which reason begins to show itself in children varies considerably: some children are capable of slight control at the age of fourteen months, and even earlier; others not till eighteen or twenty months. Crying is the means by which, in earliest infancy, pain, uneasiness, or hunger, and progressively, the wish for an object, and anger at being deprived of the source of amusement, are expressed; but when the child has learned to make other sounds, when it has acquired the

many little actions which need not be described to the tender mother, but which are ever a source of deep interest, (inasmuch as they are the signs which tell of the gradual development of the imitative powers, and consequently indicate the existence of intellect,) it would be easy to accustom the child to make known its wishes by the use of these sounds or actions. When this power is acquired, the infant should never be allowed to obtain its object by crying. We are not going to maintain that, in a well-regulated nursery, a young child will never be heard to cry—it has no other means of expressing pain or uneasiness; but a child who, after the age of fourteen or sixteen months, is never gratified in its desires when so signified, will soon cease to express them in this way. The great difficulty is to convince the child's understanding, when the wished for object is an improper toy. We would recommend the substitution of some other plaything, and, in the early stages of discipline, the removal of the source of temptation entirely out of sight: if the child refuses the substitute, (which rarely happens at a tender age, because the impressions on the mind are then slight and easily removed,) the mother or nurse will manifest by voice or countenance that she is grieved or displeased; will remove the child into another room; will seek by every means short of violence, or weak persuasion, to remove the improper ideas which have taken possession of the mind. Very young children have no words, neither can they altogether comprehend them, and until they have acquired the power of understanding speech, they must be taught by actions.

When the child has learned to ask by the means we have pointed out, all deviation from these means must be resisted, and all exhibitions of temper be corrected.

This is best done by submitting the pupil to *personal inconvenience;* but, let it be observed, we do not by this intend personal violence or chastisement. We have seen a passionate screaming child checked in its violence by holding its hand firmly in one position; and on another occasion, the same child, at the age of nineteen months, was cured of a habit of shrieking by shutting it up for a half an hour in a small but not a dark closet.

But there may be tempers which require to be treated in a different way from that which we have suggested, and the choice of means must consequently be left to the judicious parent.* One invariable rule may be laid down, that the parent, in endeavouring to check the propensities of the child, can never succeed without uniformity of conduct, and kindness of manner joined to

* For the following note the writer of this article is indebted to a member of the Committee, who has had much experience in education.—It frequently happens that manifestations of ill-temper, and even violence on the part of a child, are attributable wholly to physical causes. The writer of this note suffered, when a child, from roughness and want of moisture in the skin, to such a degree in winter, that the mere contact of any rough substance, as woollen cloth, was unendurable, and the necessity for handling the most ordinary objects sometimes occasioned great irritation of temper, which was attributed by his friends to moral defect. He has observed like effects to arise from a variety of causes, as *want of ventilation*, want of ample room for exercise, tightness of clothing, *the direct light of a window falling upon the eyes*, (which causes irritation perhaps more frequently than is supposed,) the use of food unsuited to the digestive organs of children, &c.

Physical remedies may often be applied with advantage, when ill temper may have arisen from moral causes. A run in the open air, the effort of carrying a chair from one room to another, a draught of cold water, &c., may stop a fit of crying or screaming when other means would fail: the writer can say from experience that children may be readily taught to acquiesce in such means, and even, with a little encouragement at the time, to employ such means themselves, for recovering their lost serenity of temper.

firmness of purpose. It is of the highest importance that while we are gaining an ascendancy over the minds of our children, we do not lose our hold upon their affections.

It has been urged that children should never be rewarded or punished by means of their appetite. We object to the adoption of such means as a principle; but may they not be effective when judiciously and sparingly employed? For instance, if the desired possession of fruits, cakes, or sweetmeats, supposing them not to be injurious to the health, be violently expressed, or cause an infringement of discipline, would it not be right to refuse them, and afterwards to give them occasionally when the conduct has been proper and satisfactory? The privation would then be associated with misconduct, the enjoyment with the reverse.

It should be the care of every parent or guardian not to expose her child to temptation at an early age. Nevertheless a child must be accustomed to the various ornaments of a room, such as the books, which must always be seen there; but let it be a rule never at any time to give a child that which it is at all improper it should afterwards desire. To exemplify our meaning fully: an infant is on its mother's lap—the attention of the mother being diverted from its immediate amusement, she gives it her thimble to save herself from interruption—she does not, at the moment, consider what she has long known, and afterwards perceives, when her thoughts are wholly devoted to the child, that the thimble is a dangerous toy, because it is easily swallowed; the next time the child sees the thimble, it expresses its wish to have it, for it has already known the pleasure of possession, and if its desire be signified with gentleness,

how much more difficult is it to refuse? and how much previous labour and patience on the part of the parent, and some suffering on the part of the child, are thrown away, and how much more future trouble is to be endured in consequence of this single oversight.

It would seem superfluous to insist on the necessity of firmness, yet it is the quality which is mostly wanting in the government of the nursery. Few people are aware at how early an age discipline may be enforced, and of what paramount importance it is. A child should be taught by experience the utter hopelessness of contending for its own way; as soon as it has made this discovery, it ceases to contend. But let not this firmness ever approach to violence, or the slightest display of impatience. The tenderness which but too often manifests itself as a weakness may be converted into a powerful auxiliary. All the happiness of a child springs, or ought to spring, from its parents and its nurse. If then she to whom it looks for its comforts, its necessities, and its pleasures, firmly but gently resist violence, clothes her refusals in kind and affectionate accents, and manifests grief more than anger in administering correction—will not such methods be more likely to produce moral results, than senseless indulgence, capricious refusals, followed by permissions just as capricious, and angry punishments administered without reflection, without reason, and without temper? And do we not find that the weak indulgence which knows not how to refuse, is generally accompanied by the contrary extreme of violent and injudicious correction?

No mother, however exemplary in the fulfilment of her duties, can take upon herself the entire charge of her children. How necessary is it then to have a nurse who

is sufficiently informed, honest, good-tempered, and conscientious, to comprehend and act upon the plan pursued and inculcated by her mistress. This is a difficulty which most mothers have to contend with, and it is one which will not be overcome until a plan of general education be adopted for all classes, which has reference to their future station in life, and which can only be accomplished by the union of all parties for national instruction on an enlarged and practical basis. Females of the lower classes must be practically taught the duties which they will be called upon to perform; and the *means* employed must be adapted to the *end*, before our domestics can be worthy of trust. The vicious and the ignorant are daily and hourly placed in most responsible situations; and though much of the happiness and misery of parents is thus placed in the keeping of their servants, there is a very general indifference, not to the having good servants, a thing which all desire, but to the adoption of a general means of providing a supply of good domestics. The influence of servants upon children has been considered so injurious, that, in more than one plan of education, it has been recommended to prevent all communication between them. Such plans are not practicable. It is impossible for parents, whatever be their station, to be the sole companions of their children; and it is even less possible in the early than in the later periods of childhood. The middle classes are brought nearer to their children than the rich, both by circumstances and inclination; but they also must necessarily intrust them more or less to servants. The very rich, whose pursuits are often frivolous pleasure, may leave their children altogether to servants, and yet all their riches cannot purchase the services of honest

and judicious servants: money alone will not induce well-educated women of sense to become nursery-maids, in the present state of society in this country.* Until a system of universal education is adopted, there is but one course to pursue—to use the same judgment in the choice of the persons to whom you commit your children as you employ in the management of those children themselves—to treat your domestic, when chosen with due care, as one on whom you rely; to raise her own self-respect, to endeavour to make her comprehend your objects, and to give her a just sense of their value; to set her an example in your own person of the conduct which you desire to be adopted towards her charge. To superintend every arrangement relating to the comfort and necessities of your children, to manifest your deep interest in their welfare, to encourage candour and openness on the part of your servants, and to show by your manner that you are grateful for their care of your children—such a system, where the materials on which you have to work are not really bad, will rarely fail; and those who adopt such a course will be amply repaid in the possession of a trusty and able servant.

When the child has attained the power to speak and to comprehend language, the parent's task is become both lighter and heavier: lighter, because the facilities of reasoning and explanation are afforded; heavier, because the temptations of the child are increased.

* A friend has remarked to us, that a good nursery governess can be obtained almost on the same terms as a head nursery-maid, and that he has himself found very great advantage in placing a sensible, well-educated young woman in this situation. The advantage of such a superintendent for young children we of course fully admit; but we think that at present it is not possible always, or even generally, to obtain the services of young women who are well qualified.

And as to the use of language, the child must be addressed in its own words. The mother must herself return to the simplicity of childhood. She must not altogether put away childish things. Her sympathy in grief and in pleasure, in hope and in joy, in amusement and in learning, is quite as necessary, and perhaps more influential than her authority; and even this must be expressed without the inaccuracies of infantine language, but with all its simplicity. We cannot relish what we do not understand; it would be hard if we were expected to act upon advice or instruction given in an incomprehensible tongue: many an unfortunate child is addressed in terms which are to it wholly unintelligible. It seldom happens that the reason of children cannot be addressed; the difficulty lies not in them, but in ourselves; not in the thing, but in the mode of expressing it. We forget the many links in the long chain which connects our early perceptions with our subsequent acquirements; but in order effectually to employ our experience in the education of others, we must retrace our steps, and become young again in word, not in deed—in feeling, not in action.

Another important duty is to provide such means of amusement, that no temptation to what is called mischief may ensue. All healthy children will be occupied, and if occupation is not found for them, they will find it for themselves. The love of *construction* and *destruction* abounds in most children. Their toys then should be of a kind to facilitate the one and prevent the other. Such things as a box of bricks, or of houses, even a slate and pencil, are inexhaustible sources of amusement to those who have no garden: or for the winter season, books of prints, of birds, or animals in general,

may be employed with great advantage, because they excite questions, afford the parent opportunities of giving much valuable oral instruction, and induce that love of inquiry which is the parent of knowledge. Those who possess a garden have fewer difficulties to encounter in providing amusement for their children. The spade, the wheelbarrow, or waggon, the hoop, kite, and ball, are too excellent and too well known to need recommendation here; neither need we name the doll for girls, which affords constant and varied amusement and occupation, and may be made the means of inculcating much that will be subsequently useful and admirable in a female.

These toys may also be made useful in teaching order, carefulness, and steadfastness. The seeds of perseverance may be sown, by insisting on a child's remaining satisfied with one plaything for a reasonable space of time; and a power of abstraction may be conferred by accustoming it to fix its attention on the object before it, even when surrounded by other attractions. Such a habit would also prevent envy or discontent. A child who is early accustomed to be satisfied with its own allotment will scarcely be discontented at a later period. A love of order may be encouraged by the habit of putting the various toys in their respective places after use; and such a habit eventually leads to systematic carefulness and economy.

We now come to a most important part of education: the teaching of the practice of virtue—the instilling a permanent love of goodness, a hatred of evil.

Children who look upon their parents as the sources of their happiness (and all parents have the power of inculcating this feeling) will reverence their words and

actions, and seek to follow their example (we presuppose the early training we have recommended to have been pursued for three or four years); they will also be delighted to please their parents, and grieved to vex them. Here then affection becomes one great stimulus, and a powerful instrument.

The practice of self-control, of truth, obedience, and gentleness, should be rewarded not by gifts, but by affectionate praise and encouragement; and all contrary conduct should be reproved by disapprobation and the expression of sorrow. Rewards and punishments must occasionally be resorted to at all ages; but they should be used sparingly, and, as we have before remarked, be made to grow out of the circumstances which call them forth. The pleasure afforded by self-approbation, and the approval of those whom we love and esteem, ought to be the *greatest* pleasure that a child can receive. When this is attained, the main difficulty is overcome.

We must, however, insist on the power of habit. The reasoning faculties are stronger in some children than in others, but the force of habit is great in all. Before reason assumes much influence (and it exists earlier than is generally believed) habits may be acquired; subsequently, appeals may be made to reason and affection.

If a child has been accustomed to find discomfort an unfailing consequence of misconduct, it will avoid misconduct as anxiously as it would avoid the fire after having been once burned. When it begins to reason, it will perceive the effect of misconduct in others; and here the parent has the means of strengthening a dislike of evil by illustrative tales, either read or repeated,

showing the advantages of virtue, and the disadvantages of vice. A judicious selection will have the double effect of leading the child to a love of information. But again, we must urge upon the instructor, that nothing which is beyond its comprehension, or is incapable of explanation, should be presented. Every thing vague ought to be avoided. We should teach a child (whether it be by precept or by fictitious example) to do, or not to do, *particular* things—such as not to practise falsehood or deceit, but to be sincere and open on all occasions: *general* admonitions as to virtue and vice, doing right and doing wrong, &c., have little effect.

In the employment of the influence of affection, great prudence must be exercised, lest the feeling be deadened by too much use; or, on the other hand, lest the child be habituated to submit the judging power, which in after life is the main motive of action, to the less certain guidance of sympathy and affection uncontrolled by reason: both evils, though of an opposite character, may we think arise from the injudicious use of the principle of affection. We might also caution mothers against the constant reiteration of such phrases as the following: Don't do this; be quiet; let that alone; you are very naughty. The child soon comes to regard them as mere idle words, and often ceases even to hear them.

As implicit obedience is one of the first objects to be obtained, so no command should be given, the fulfilment of which cannot be, and is not, insisted upon. The moment that evasion is found possible, it will be practised. There is no need of violence, no necessity for force, either in language or action; nothing but quiet, firm determination, until the command be obeyed; ap-

probation or displeasure may follow in proportion to the resistance that has been offered. We repeat, that every child must be taught the utter hopelessness of having its own way, before strict discipline can be maintained. Still we should be careful not to let our commands be of that description which may encourage obstinacy and resistance. For example, if a child has not obeyed a certain command, it may often be better to inflict a positive punishment—such as confinement, or the deprivation of some little pleasure—than to make the punishment continue *till* the child has obeyed the command. If we make the child's punishment continue till he has done what he is ordered to do, there is danger, with some children, of a stubborn resistance. If we punish for disobedience to the command, the lesson will not be without its value; and if the punishment be repeated as often as the offence is committed, there is not much reason for doubting that the parent will finally be successful.

As there are various tempers to be contended with, so must the system vary with regard to each. Passion, obstinacy, fretfulness, sullenness, and timidity, are the chief varieties. With the first we should recommend summary punishment, and that of a somewhat harsh character: for instance, solitary confinement, or bodily restraint—such as limitation to so small a space that movement is difficult or uneasy; and the entire privation of the object which has caused the excitation for hours or days, according to the age of a child.

Obstinacy is often fostered, rather than checked, by opposition. Wherever it is possible, the parent must endeavour not to perceive the assumed ignorance or incapacity, which are the usual forms which obstinacy

takes in children. If they refuse to repeat a thing, say it over and over again yourself calmly, as if you were only anxious to remove their ignorance; if they refuse to do a thing, if it be practicable to move their limbs gently into the necessary action, do so, and let the matter end, never alluding to it at any subsequent period. If both these methods be unavailing, or not practicable, tie the hand behind the back, or attach it by a string to a hook in the wall, so as not to inflict pain, but merely so as to occasion inconvenience until the obstinate fit is over. But the child must never know that it is stubborn; nor must it ever perceive that it has the power to disturb the serenity of its guardian.

Fretfulness generally proceeds from physical causes, and eventually becomes habitual. The evil is more easy to prevent than to remedy: a little extra attention to the amusements of the child so afflicted (for a great affliction it is) will do much. An increase of tenderness (we do not by this mean false indulgence), accompanied by a firm determination not to grant the object which is longed for, are perhaps the best checks.

Sullenness can only be repressed by the privation of all society, all sympathy, and all amusement. The delinquent must be practically taught, that, when under the influence of such feelings, he is unfit for communication with his fellows, and unworthy of their regard. Timidity is perhaps more a defect of character than of temper; and, what seems an anomaly, is generally accompanied by vanity. Shy men are usually conceited: it proceeds from a false view of one's self, and of others—of both persons and things. Encouragement must here be blended with particular attention to the reasoning faculties.

The influence of body over mind is too apparent to need comment, and yet how seldom is this fact considered and acted upon. Locke has wisely insisted upon the necessity of the formation of healthy habits, in order to ensure the success of education. Regularity is most essential, as far as regards the hours allotted to sleep and nourishment. The want of sufficient sleep during the day, especially in very young children, induces, besides many bodily defects, a restlessness and fretfulness which are unquestionably moral evils. Hunger or satiety will produce the same results. Undue exposure to cold destroys the energies of a child, and exposure to heat weakens them: a proper temperature is of great importance. We insist upon these points here, because it is undeniable that they involve both the moral and intellectual education of the child. Exercises which call forth the free action of the limbs, also induce free action of the mental faculties. The animated laugh, the merry phrase, the childish imitation, are best heard and seen in the midst of active and healthful sport. Some persons restrict children in these matters, because they fear they may induce boisterous and vulgar habits of speech and manner. But this again depends upon the parent's superintendence. Mirth does not mean noise: exercise does not infer coarse actions. Nature shows incessant motion to be the means by which infants attain all their bodily and even their perceptive powers, and while youth lasts it cannot be unduly restrained without injury. Fresh air and exercise, judicious diet, and regular hours, are the best prescription which a mother can act upon to secure the bodily and mental health of her offspring.

When once a love of virtuous conduct has been instilled, and made habitual, the intellectual education

may begin; but it is not to be commenced with books, nor by the alphabet. Before knowledge can be beneficially acquired, its value must be felt, and a desire of attainment must be inspired and manifested. This is not a difficult task, but it can only be fulfilled by those who have studied the capabilities and the powers of the intellect which is to be cultivated.

The forms of expression employed by children are those which they best comprehend, and in these, as we have before observed, they must be addressed. Great truths may be illustrated by small words. A fact is not the less valuable or interesting because it is clothed in simple language; on the contrary, it can only be really valued when it is understood. Before children have attained their fourth year, some peculiar mental organization is developed, requiring direction, restraint, or encouragement. Upon a false or correct estimate of this organization will depend the moral and intellectual welfare of the individual. In some characters, imagination is predominant; in others, quick perception; and in a few, for this perhaps is the rarest, the reasoning powers are most active.

Great imagination frequently exists with no power of language; and children are distinguished by this mingled excellence and defect equally with adults. Because they cannot express their thoughts intelligibly, they are judged to have no ideas at all, or condemned as stupid. A patient investigation will discover the injustice of the sentence; and in such cases the child's deficiencies should be remedied, care taken to increase his stock of words, and to habituate him to a clear and correct expression of his ideas. The same excess of imagination gives rise to that dreaming state which assumes the ap-

pearance of laziness, (and the effects are equally injurious;) the imagination is indeed busy, but it is active to no end; the other faculties are lying dormant, and their want of exercise will finally become incapacity. These imaginative minds often affix their own definitions to words, inducing such erroneous conceptions, and such distortions of facts, that a child has not unfrequently been deemed idiotic; whereas, upon a minute examination of the various trains of thought, the misconceptions have evidently arisen from a vivid imagination acting upon misinterpreted expressions occasioned by the similarity of sounds, or by some association. For instance, a conversation has passed in the presence of a child, in which anecdotes or events are related, parts of which only are intelligible to him; to these parts he affixes his own meaning; this affords ample food for an active imagination, and when at some future time a term or name previously heard is used, the child associates with it the former facts, the original train of ideas return, and he appears to be talking of something totally irrelevant, when, in fact, the connexion is intimate, and the deduction fair, according to the premises he had made for himself. Such minds delight in improbabilities and tales of wonder: the marvellous to them is more attractive than truth; and if they be not checked, the judgment is sacrificed, and the reasoning powers almost destroyed. Nothing tends to the fostering of this quality of the mind more than ordinary prints. An excess of imagination is either the cause or effect (most probably the former) of mental indolence; and where it prevails, the child will prefer gazing on a print, to informing itself of the reality of the subject, which the print illustrates. In an inquiring mind, an engraving will create a desire to know more; and when the facts

are acquired, the defects or improbabilities of the illustration will be detected. An imaginative mind takes all upon trust: it does not wish to *inquire*, it *believes*. Good engravings, by which term we mean correct representations, judiciously employed, are of great assistance in education; but children's books often contain illustrations which absolutely contradict the impression that the words convey, and create incorrect ideas and associations which it is impossible wholly to eradicate.

In contradistinction to this superabundance of imagination, there are minds which cannot be urged beyond mere matter of fact. With them, words are limited not so much to one meaning, as to one application; yet they are not deficient in curiosity, and probably delight in inquiry, but the fact once acquired lies sterile: it produces no results further than that *it is so;* the modifications of circumstances are neither foreseen nor understood. These two distinct manifestations are often greatly misinterpreted: the one is considered a fool, the other very clever—neither opinion being correct.

In order to analyze the nature of youthful intellect, the child must be observed during its sports, and when uninfluenced by restraint. The preceptor must condescend to become its playfellow. It by no means follows that, in so doing, he loses his influence, for companions generally have greater power than instructors: hence the importance of discretion in the choice of companions; and the conclusion is obvious, that children should remain in that sacred asylum "*home*," until they can distinguish between good and evil, and have moral and intellectual strength to cling to the one and resist the other. The vulgar, ignorant, obstinate, passionate, or vicious playfellow of an hour will implant more evil than days, nay years of care can

root out. But when a child has learned that such things are wrong, he will fear and dislike the evil-doer, and avoid him as he would fly from any vicious animal.

The child having learned to distinguish between good and evil, and acquired habits of obedience, self-control, a love of truth, an affectionate confidence in its preceptor, with some idea of the utility of knowledge, and of its power to confer amusement (and in childhood amusement is happiness), the imaginary difficulty of learning to read will be half overcome, before the task appears to have commenced. And let it be observed that, as learning ought to be made pleasurable, so let it never be held forth as the awful affair it has been so long considered. It is only the ignorance or pedantry of the teacher which invests it with an austerity both false and hateful.

From the above remarks the following conclusions may be fairly drawn :—

First, that the formation of good habits is practicable at a very early age.

Second, that a system of regular control may be established and acted upon before the reasoning faculties and powers of speech are much developed.

Third, that with the development of reason and language increased means are afforded.

Fourth, that success in life and character depend more upon the parent than upon the child.

Fifth, that the tools (so to speak) which must be employed, are firmness, gentleness, consistency, patience, and maternal tenderness.

Sixth, that the materials to be acted upon are health, temperament, affection, and reason.

From these deductions, it is clear that the mother is,

to a great extent, responsible for the moral well-being of her child; that she has a duty to fulfil, demanding the practice of all the virtues which she wishes to inculcate, and requiring an informed and unprejudiced mind, with a clear and unwarped judgment. The personal attention required of her will not, if her time be well regulated, interfere with other duties.

We have advanced nothing that is not *practical*—nothing that is not in the power of every mother. We cannot even allow that there is much difficulty in what we propose: the *greatest* lies in the self-knowledge and self-command required by the parent. We have heard many mothers assert that they send their young children to a preparatory school because they have not time to attend to them at home. Have they found time to inquire into the system of that school, and the character of the companions whom their children will meet there? Do they find time to examine either the moral or intellectual attainments of their children?—to ascertain whether they have acquired virtuous habits?—or are they merely satisfied with knowing that Miss or Master is learning spelling, reading, geography, grammar, writing, and arithmetic. If mothers cannot find time personally to superintend the elementary education of their children, neither will they find time to ascertain *how* that education proceeds.

But they may eventually find time to lament over the influence of bad example, the ignorance of virtue, and the acquaintance with evil, in which their children have grown up;—they will have to mourn the loss of affection, confidence, friendship, and parental influence; and in addition to this, they may some time discover that their children have grown up entirely deficient in all useful or solid acquirements.

ON THE

IMPORTANCE OF PHYSICAL EDUCATION.

By J. C. WARREN, M.D.

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When I had the honour of being invited to make some remarks at this meeting on the subject of physical education, I felt much hesitation in undertaking the task. This hesitation arose from the apprehension that professional occupations would render it impracticable for me to present the subject in such a form as to excite the interest it demands. Aware, however, that the course of my pursuits had put me in possession of facts having an important bearing on the present modes of education, and feeling anxious that these facts should be made known to instructors and parents, and others concerned in the management of the rising generation,—I felt myself called on to waive the consideration of the objections to this labour, and to trust the results of my experience, in such a dress as I could afford to give them, to the candour of those to whom they were to be submitted.

Nature has destined that the physical and intellectual education of man should be conducted in very different modes. The culture of the mind requires the early, constant, and well-directed efforts of an artificial system. That of the physical faculties is fully effected by the powers of unassisted nature. All that she asks is, that

we would leave her free and unconstrained. Unhappily, our state of civilization, while it has copiously supplied the means of intellectual improvement, has, nearly in the same ratio, raised obstacles to the development of the physical powers; and if we wished to restore to those their original spring, we should either revert to our primitive condition, or find substitutes in art for the modes employed by nature.

Considerations of this description have presented themselves occasionally, as I have been called to observe the evils arising from the prevalent systems of education, and also from too steady an application to literary pursuits in those whose education was completed. At one period, my attention was excited to the unfavourable influence of studious and sedentary habits on health, by the occurrence of alarming indisposition among the members of the sacred profession, a number of whom became its premature and much-lamented victims. At another, I witnessed the effects of a mistaken system, on the constitution of multitudes of the fairest work of creative power. I have had the misfortune to behold, when it was too late to apply a remedy, numerous instances of decay in the most vigorous constitutions, and of distortion in the best proportioned forms.

The importance of health to the regular exercise of the faculties of mind, as well as those of body, is very well understood in theory, and very generally neglected in practice. We are daily seen to accumulate the treasures of science on intellects where the physical machinery is disordered and made useless by the burden. What is the value of a brilliant genius, or a highly cultivated mind, to a weak and labouring frame? Let us suppose the existence of such a case in either of the

learned professions. If it occur in the minister of religion, the organs of utterance are enfeebled, and the power of instructing his hearers is diminished or destroyed. The thoughts that should speak remain unembodied in language, and the words that should burn are extinguished on his lips. His usefulness is impaired in the moment of his full career; and even if his days are not cut off at an early period, he finds his mental abilities prematurely chained down by bodily weakness.

If it happen in the interpreter of the law,—the powerful workings of the mind in the investigation of obscure points, and the elaboration of profound arguments, break down a sickly and yielding organization, and bring on a train of nervous affections and perverted imaginations, as permanent perhaps as life, and less supportable than death.

Again, a bad constitution in a professor of the healing art keeps him at variance with all his duties. How can he heal others, in whom the springs of health act feebly and imperfectly? A laborious and active course of duty demands a bodily vigour that can endure all kinds of unseasonable labour; a steadiness of fibre that can bear without agitation the sufferings of others, while attempting to relieve them; and a firmness of health able to resist the attacks of those malignant epidemics that prostrate a whole community.

When we regard the influence of a debilitated body on the more delicate sex, we find it not less distressing. A young female, at the age of twelve or fourteen, presents a beautiful figure, rosy cheeks, an airy step, and the fulness of life and happiness in every movement.

As she advances, her vivacity naturally lessens; but, as if it would not be soon enough extinguished, it must be repressed by art. The lively motions of the body and limbs must be checked, the spirits must be restrained, and a sort of unnatural hypocrisy made to conceal every ingenuous movement. The activity of disposition is destroyed; by confinement she loses the inclination for exercise, and passes from her school to a state of listlessness at home, or to frivolous and useless amusements, or perhaps to fresh tasks. By this regular repression of the physical powers, their energy is at last broken. Various organs lose their tone and their healthy action. Even the most solid parts are gradually impaired, and, being unable to support their ordinary burden, they sink under its weight, and bring on unchangeable deformity. Perhaps the exterior of health may remain a little longer, although the destroying principle is working in the heart. Should she be called on to be a mother, then comes the trial of her strength. The fruit, so fair without, is then found decayed within when scarcely matured. Next, the roses of the countenance wither; the limbs are feeble and tottering; the vivacity is extinguished; the whole system undermined, and ready to fall on the first impulse. Of what use now are all the finery of accomplishment, and the rich stores of literature and of science, the fruits of so many years' labour? They are all wasted, and perish unemployed.

What I have now stated as the result of the mode of female education in use at present is not a picture of the imagination; it is a fair representation of what we are compelled to encounter in almost daily experience.

My wish now is to point out some of the principal

ways in which literary pursuits may be destructive to health; and also to show what measures might be adopted to prevent these pernicious consequences.

Action is the object for which organization was created. If the organs are allowed to remain inactive, the channels of life become clogged; and the functions and even the structure get impaired. Young animals are filled with the desire of motion, in order that the fluids of the body may be forced rapidly through their tubes, the solids thus elongated and enlarged, and every part gradually and fully developed.

The immediate consequences of action on the bodily frame are familiar and visible to daily experience. Observe the sinewy arm of the mechanic. The muscles are large and distinct; and when put in motion they become as hard as wood and as strong as iron. Notice those who are accustomed to carry considerable weights on the head. The joints of the lower limbs are close-set and unyielding; the frame perfectly erect, and the attitude commanding. In the cultivator of the soil, though the form may be vitiated by neglect, you may observe that the appearance of every part is healthful, vigorous, and well fitted for labour.

While all of us are desirous of possessing the excellent qualities of strength, hardiness, and beauty, how defective are our systems of education in the means of acquiring them? In the present state of civilization, a child, soon after it can walk, is sent to school; not so much for the purpose of learning, as to relieve its parents of the trouble of superintending its early movements. As he grows older the same plan is incessantly pursued and improved on, till a large part of his time is passed in sedentary pursuits and in crowded rooms. In

the short intervals of mental occupation the boy is allowed to follow the bent of his inclinations, and to seek in play that exercise which nature imperiously demands. The development of his system, though not what it was destined to be, is attained in a certain way; and he is exempted from some of the evils which fall heavily on the other sex.

The female, at an early age, is discouraged from activity, as unbecoming her sex, and is taught to pass her leisure hours in a state of quietude at home. The effects of this habit have been already spoken of in general terms; and I would now point out some of its results in a specific manner.

In the course of my observations, I have been able to satisfy myself that about half the young females brought up as they are at present undergo some visible and obvious change of structure; that a considerable number are the subjects of great and permanent deviations; and that not a few entirely lose their health from the manner in which they are reared. The proportion of those who fall under the first description I have already stated. The amount of the two last it is impossible to ascertain with preciseness. I can venture to say that it is sufficient to constitute a powerful claim on the attention of those engaged in the management of young persons.

The nature of all the particular affections and diseases thus induced it would be impossible to describe in this place. I shall venture to direct your views to the details of only one of them.

The weight of the principal part of the body or trunk, the weight of the neck, the head, and the two upper extremities, are supported by a single bony column, called the spine. This column is about three inches in diameter.

It consists of twenty-four pieces of bone placed one on the other; and between each two is interposed a substance somewhat resembling caoutchouc or India-rubber, for the purpose of giving it elasticity. This column is hollow, and contains the spinal marrow. Now the spinal marrow is the origin and source of the nerves that convey the influence necessary to voluntary motion; and they are sent off in pairs to the various muscles. The bony pieces of the spine are confined together by many small ligaments, by the elastic substance just spoken of, and by numerous muscles, affixed, not only to connect and support, but also to move them.

The bones of the spine, at an early period of life, are themselves in part composed of an elastic, cartilaginous, or gristly substance; and are always of a porous and sponge-like texture. In consequence of this kind of organization the spinal column possesses much elasticity and flexibility, which enable it to yield and to move in different directions, and expose it to receive permanent flexures, when there is a deficiency of natural strength in its composing parts.

Causes which affect the health and produce general weakness, operate powerfully on this part, in consequence of the complexity of its structure, and the great burden it supports. When weakened, it gradually yields under its weight, becomes bent and distorted, losing its natural curves and acquiring others, in such directions as the operation of external causes tend to give to it; and these curves will be proportioned, in their degree and in their permanence, to the producing causes. If the supporting part is removed from its true position the parts supported necessarily follow, and thus a dis-

tortion of the spine effects a distortion of the trunk of the body.

The change commonly begins at the part which supports the right arm. The column bends towards the right shoulder, forms a convexity on the side where the shoulder rests, and thus elevates the right higher than the other. This elevation, or, as it is commonly called, growing out of the shoulder, is the first phenomenon that strikes the friends of the patient. Often when observed, it has already undergone a considerable change of position; and the change is not confined to the shoulder, nor to the portion of spine immediately connected with it. On examination it will be discovered that the curvature to the right in the upper part of the column is accompanied, as a natural consequence, by a bend of the lower part to the left, and a correspondent projection of the left hip. It is perfectly obvious that the inclination of the upper part of a flexible stick to one side will leave the lower part on the other; and when, by this inclination, the vertical support is lost, a disposition to yield at the curving points will continually increase until it be counteracted by some other power. Thus it happens, then, that any considerable projection of the right shoulder will be attended by a correspondent projection of the left hip.

The rising of the shoulder involves other changes in the osseous fabric. For, as the spinal bones support the ribs, when these bones project they necessarily push forward the ribs dependent on them. These ribs form the frame of the chest, and of course the right side of the chest is projected forwards, and causes a deformity in the fore-part of the body. Nor do the changes stop here. The posterior ends of the ribs being pushed for-

wards, and the anterior ends being confined to the sternum or breast-bone, the right edge of the sternum will be drawn forwards, and the left edge consequently turned backwards. The fore-parts of the left ribs will be gradually forced inwards or backwards, and thus the left side of the chest distorted and contracted.

I am aware how difficult it is to have a distinct notion of these intricate changes in the human machinery, without an exhibition of the parts concerned in them; but it is my duty to represent the train of phenomena as they exist in nature; and I think they are sufficiently intelligible to excite consideration and inquiry.

Perhaps it may be imagined, that the cases I have described are of rare occurrence, and that we have no occasion to alarm ourselves about a few strange distortions, the consequence of peculiar and accidental causes. If such were in fact the truth, I would not have occupied your time with the minute details of these unpleasant subjects. Unhappily they are very common. I feel warranted in the assertion already intimated, that of the well-educated females within my sphere of experience, about *one-half are affected with some degree of distortion of the spine.* This statement will not be thought exaggerated when compared with that of one of the latest and most judicious foreign writers. Speaking of the right lateral curvature of the spine, just described, he tells us, "it is so common, that out of twenty young girls who have attained the age of fifteen years, there are not two who do not present very manifest traces of it*."

As the bones serve to contain most of the great organs, any change in their forms will be likely to produce changes in the condition and healthy action of these

* Lachaise, Sur les Courbures de la Colonne Vertebrale, p. 23.

organs. The spine gives lodgment, as has been said, to the spinal marrow; and this sends out nearly all the nerves that carry the influence of voluntary motion, and many of those that convey energy to the great organs of respiration, circulation, and digestion. When the containing part is distorted, the part contained is likely to be disturbed, and this disturbance must produce important effects on the nerves issuing from it, and of course on the organs to which these nerves are distributed. If the compression be slight, the operations of the organs will be partially disturbed. Hence proceed shortness of breath; palpitation of the heart; the phenomena of indigestion, flatulence, acidity, &c. These again give rise to the uncomfortable feelings called nervous; though I believe they are sometimes the direct consequence of partial compression of the spinal marrow. When this pressure is considerable, the bad consequences are more obvious and formidable. In such instances the muscles supplied with nerves from the part below that compressed lose their activity. The circulation in the lower limbs is retarded, and they grow cold and livid, and swell. Sometimes even a complete paralysis, or loss of the power of motion, occurs in one or in both of these extremities.

The ribs and the breast-bone enclose and guard, as we have said, the organs of the chest. Their position being altered by the deviation of the spine, the cavity they form becomes deranged. Its left part, where the heart is placed, being diminished in extent, this organ is embarrassed in its movements, and, striving to relieve itself, produces painful and dangerous palpitations, and a general disturbance in the circulatory system. The lungs, for the same reasons, cannot fully expand. This

function is partially performed, and the blood imperfectly oxygenated—an irregularity of itself sufficient to bring on a low state of health, and a disposition to disease.

The want of conformity between these organs and the bones they are in contact with, causing interference between the parts, an irritable condition of the lungs may be engendered, disposing to acute inflammation, or to the slow development of chronic disease.

Having given some notion of the nature of the affections brought on by mistakes during the time of education, I shall advert now to their causes.

The general causes of these derangements are those things that weaken the constitution. They may be physical or mental. Among the most important physical causes are, want of the exercise proper to develop the powers of the body, and the taking of food improper in quantity or quality. The mental causes may be a too constant occupation of the mind in study; the influence of feelings or passions of a depressing nature, &c.

The facts that show the want of exercise to be one of the greatest causes of these affections, and of the weakness that induces them, are very numerous. On the one side, we observe that young people, brought up to hardy and laborious occupations, whether they are males or females, do not suffer in this way. The sons and daughters of farmers and labourers, for example, never exhibit the deformities spoken of, except in cases where there is a great scrofulous defect by inheritance.

A still more remarkable fact of a general nature may be seen, on a comparison in this respect between the

two sexes. The lateral distortion of the spine is almost wholly confined to females, and is scarcely ever found existing in the other sex. The proportion of the former to the latter is at least nine to one. In truth, I may say that I have scarcely ever witnessed a remarkable distortion, of the kind now spoken of, in a boy. What is the cause of the disparity? They are equally well formed by nature; or, if there be any difference, the symmetry of all parts is more perfect in the female than in the male. The difference in physical organization results from a difference of habits during the school education. It is not seen till after this process is advanced. The girl, when she goes from school, is, as we have before said, expected to go home, and remain, at least a large part of the time, confined to the house. As soon as the boy is released, he begins to run and jump and frolic in the open air, and continues his sports till hunger draws him to his food. The result is, that in him all the organs get invigorated, and the bones of course become solid; while a defect exists in the other proportionate to the want of physical motion.

A question may fairly be asked, why these evils are greater now than formerly, when females were equally confined? The answer, in reference to the young females of our country, is, that they then took a considerable share in the laborious part of the domestic duties; now, they are devoted to literary occupations, of a nature to confine the body, and require considerable efforts of the mind.

I shall not, in this place, say anything of the second of the physical causes of weakness spoken of, as it will be adverted to hereafter. The next of these causes which

presents itself to our view, is of a moral nature;—the influence of too great occupation of the mind in study, and that of feelings and passions of a depressing nature.

The operation of mental causes on the bodily frame is not unknown to any of us; though they may not perhaps have been thought, in regard to education, to be of very great importance. As it is not in my power to enter fully into the subject, I would barely present it for your consideration.

The effects of anxiety, grief, and other feelings, in diminishing strength and wearing away health, are quite familiar. The loss of property and of friends has been known to bring on diseases; and it has sometimes happened, that an agreeable reverse or a favourable incident has speedily removed them. Confidence in a physician is a great help towards receiving benefit from his prescriptions; and many of the cures wrought by empirical or quack medicines are to be attributed rather to the operation of the mind than to the action of the medicines on the disease.

The production of physical changes in a sudden and sensible way, by the action of moral causes, is comparatively rare, and difficult to comprehend. Yet medical men do sometimes have an opportunity of observing changes effected by this power, which might appear incredible, and almost miraculous, to those not aware of the force of mental operations on the human organs. I could adduce many such cases. Perhaps it will be proper to state one or two in detail.

When, some years ago, the metallic tractors were in the height of their reputation for the cure of diseases by external application to the part affected, the following

experiment was performed by Dr. Haygarth of Bath. Two tractors were prepared, not of metal but of a substance different from the genuine tractors, and made to resemble them. These were applied, in a number of instances, with all the good effects of the real tractors. Among other remarkable cures was that of a person with a contraction of the knee joint, from a disease of six months' duration. After a few minutes' application this man was directed to use his limb, and, to the surprise of all present, he was able to walk about the room. Such instances are not very unusual. Many empirics succeed by calling into action the same principle. The patient, after a number of contortions of the part affected, is directed to make use of his limb; and though this call on his imagination does not infallibly succeed, it is not wonderful that it occasionally does so.

I will relate another case of this kind. Some time since, a female presented herself to me with a tumour or swelling of the submaxillary gland of the neck, which had become what is commonly called a wen. It was about the size of an egg, had lasted two years, and was so very hard that I considered any attempt to dissipate it by medicine to be vain, and advised its removal by an operation. To this the patient could not bring her mind; therefore, to satisfy her wish, I directed some applications of considerable activity to be made to the part, and these she pursued a number of weeks, without any change. After this she called on me, and, with some hesitation, begged to know whether an application recommended to her would in my opinion be safe. This consisted in applying the hand of a dead man three times to the diseased part. One of her neighbours now lay dead, and she had an opportunity of trying the ex-

periment, if thought not dangerous. At first I was disposed to divert her from it; but, recollecting the power of the imagination, I gravely assured her she might make the trial without apprehension of serious consequences. Awhile after she presented herself once more, and, with a smiling countenance, informed me she had used this remedy and no other since I saw her; and, on examining for the tumour, I found it had disappeared.

The possibility of operating powerfully on the corporeal organization by moral causes being admitted, it is clear that the long exertion of intellectual efforts, and still more the frequent action of depressing passions, may, and even must, have a great influence on the condition of the body, at the flexible period when education and growth are going on together. A close and constant occupation of mind too long continued lessens the action of the heart; and a languid circulation thus being induced, prevents the full growth of the body. Depressing passions act more conspicuously. You may possibly have noticed, though the case is rare in this country, the condition of children subjected to a persevering system of harshness at home. They are pale and shrivelled, and their growth is checked.

In the present modes of education great pains are taken to excite the imagination by competition. These efforts are attended with but too much success in susceptible minds. An anxiety to excel becomes the predominant passion. The health, the sports, and too often the friendships of youth, are sacrificed to the desire of surpassing those around. When this becomes an all-absorbing passion, the result is most unfriendly

to physical organization; and a multitude of fine constitutions are ruined by it in both sexes.

Whether any proper substitute can be found, in our sex, for competition and rivalry, I must leave to others to decide. So far as my experience extends, I should give an affirmative answer; and while I do not pretend to be a very competent judge in the case, it is fair to say, that the habit of giving public instructions for more than twenty years has afforded me some conclusions of a satisfactory nature.

The application of the system of rivalry to the softer sex, I speak with submission to greater experience, appears to me fraught with mischief. It inflames the imagination, festers the passions, and poisons the happiness of the brightest days of life; and since the very highest grade of literary acquirement is not essential to the duties of the sex, it seems as unnecessary as it is pernicious.

I have just made a question whether there is a substitute which is sufficiently practical to be of general use. I do not know that there is; and if none exists, I think the ingenuity and intelligence of instructors could not be employed on a more important subject than in devising such substitute. The spirit of improvement has, I imagine, already discovered that the reasoning process may be generally employed with great success in the instruction of young persons. I know individuals who use it to a considerable extent, and with the most happy results. They endeavour to enforce on their pupils the doctrine that the path of duty is the most easy and most for the interest of the individual to pursue. They do this by conversation and by argument; and the process

succeeds with those who are capable of being influenced in any way,—and why should it not? Children of the earliest age are perfectly capable of feeling the force of reason; and I believe it will generally be found that they are under the power of their parents rather in proportion to the employment of this agent than to that of the rod or any other compulsory means. If they understand reason at so early a period, surely they cannot lose their susceptibility to it at one more advanced. There are, I know, minds on which the powers of language make no impression, and all the weapons of argument fall as if pointless. But these are to be considered as exceptions to general laws—cases in which all the means of severity and kindness equally fail. They should not cause discouragement. Patience is the everlasting motto of the instructor. With it he performs wonders—without it he can do nothing.

The remarks made above will give some notion of the most important of what I conceive to be general causes of ill health and imperfect growth during the educating process.

It may not be useless to say a few words on some of the immediate causes of spinal distortion, which may be called local, in opposition to the former.

The most obvious of the local causes are bad postures of the body and limbs. The habit of bending the neck while writing or drawing gradually compresses the vertebræ and the intervertebral substance on their anterior part, and causes a permanent change in the form of this part of the spinal column. This distortion is so very common among us, that we are apt to consider it a natural formation. In fact, however, it is entirely artificial in a great number of instances. Sometimes it

is the consequence of negligence, and not unfrequently of timidity. Whether it tends to impair the health always I will not say—that it sometimes does so I am certain; and its effect in deforming the shape is even greater than a moderate degree of lateral curve.

The immediate cause of the lateral curve of the spine to the right, opposite to the right shoulder, is the elevation and action of the right arm in drawing and writing. This posture pulls the part of the spinal column to which the muscles of the right arm are fixed to the right side. The convexity of the spine thus produced keeps the right shoulder elevated and the left consequently depressed. The lower part of the column is thrown to the left side; and this displacement being favoured by the disposition to rest on the left foot, while standing to speak or read, there comes to be a permanent projection of the left hip. The postures employed in practising on musical instruments sometimes bring on these distortions; as, for example, a great use of the harp favours the disposition to lateral curvature, from the constant extension of the right arm.

Having adverted to the nature and the causes of some of the defects that arise from want of attention to physical education, I shall now throw out some hints as to the modes in which it may be improved.

Nature, as we have before said, if left to herself, is all-sufficient to the development of physical organization. But we live in an artificial state—a state that continually thwarts the course of the native dispositions of the animal economy; and as we must abandon the advantages of these, we must seek for substitutes in an artificial process.

The principles which should form the basis of such a

process will readily be seen, on attending to the nature and the causes of these defects. We shall observe that the remedy, or rather the preventive means, lies in a certain regulation of the sentiments and passions and intellectual operations; in promoting bodily activity; in a salutary regimen, and in some other inferior considerations. In regard to the first of these, that is, to what relates to the mind, I have already said all I intend at this time, and I shall now advert to the others.

Towards a perfect system of education it is necessary there should be a balance preserved between physical and intellectual cultivation. When the mind is closely occupied the body should be carefully guarded. If the pursuits of the former are severe and absorbing, those of the latter should be cheerful and relaxing. Instead, then, of abandoning the physical to the intellectual culture, it should be increased in the same ratio, and followed with the same earnestness.

Exercise is so material to physical education that it has sometimes been used synonymously, though it really constitutes only a part of it. In order that exercise may have its due operation it must begin at the earliest period of life, and of course the parent must in this act the part of instructor. He must take pains to have the infant carried into the air every day, and in every season; for, whatever may be the dangers of such a course, they are in the end less than those incident to the accidental exposures of a delicate constitution. In the earlier years, the dress should be arranged so as to allow that use of the body and limbs to which nature prompts, with freedom and without impropriety. When children are sent to school care should be taken that they are not confined too long. Children under fourteen

should not be kept in school more than six or seven hours a day; and this period should be shortened for females. It is expedient that it should be broken into many parts, so as to avoid a long confinement at one time. Young persons, however well disposed, cannot support a restriction to one place and one posture. Nature resists such restrictions; and, if enforced, they are apt to create disgust with the means and the object. Thus children learn to hate studies that might be rendered agreeable, and they take an aversion to instructors who would otherwise be interesting to them.

The postures they assume while seated at their studies are not indifferent. They should be frequently warned against the practice of maintaining the head and neck long in a stooping position; and the disposition to it should be lessened by giving a proper elevation and slope to the desk; and the seat should have a support or back of a few inches, at its edge. The arms must be kept on the same level; and there should be room to support them equally, or the right will be apt to rise above the left, from its constant use and elevation. A standing posture in writing and studying is not commendable for young persons. The secret of posture consists in avoiding all bad positions, and avoiding all positions long continued.

The ordinary carriage of the body in walking should be an object of attention to every instructor. How different are the impressions made on us by a man, whose attitude is erect and commanding, and by one who walks with his face directed to the earth, as if fearful of encountering the glances of those he meets! Such attentions are even of great importance to the fairer sex, where we naturally look for attraction in

some form or shape. If nature has not given beauty of face to all, she has given the power of acquiring a graceful movement and upright form—qualities more valuable and more durable than the other. These qualities are lost or gained at school; and of course they lie, to some extent, within the control of the instructor. It seems to me it would afford a great addition of satisfaction to the superintendent and guardian of the rising population, to be able to send out to the world his annual recruits, not only well imbued with knowledge and virtue, but also endowed with a handsome form and graceful manners.

The influence of an upright form and open breast on the health, has been, I think, sufficiently explained; and what may be done to acquire these qualities is shown by many remarkable facts, one of which I will mention. For a great number of years, it has been the custom in France to give young females, of the earliest age, the habit of holding back the shoulders, and thus expanding the chest. From the observations of anatomists lately made, it appears that the clavicle or collar-bone is actually longer in females of the French nation than in those of the English. As the two nations are of the same race, as there is no other remarkable difference in their bones, and this is peculiar to the sex, it must be attributed, as I believe, to the habit above-mentioned, which, by the extension of the arms, has gradually produced a national elongation of this bone. Thus we see that habit may be employed to alter and improve the solid bones. The French have succeeded in the development of a part, in a way that adds to health and beauty, and increases a characteristic that distinguishes the human being from the brute.

As young persons advance in age, and as the disposition to motion naturally diminishes, it becomes important to encourage and provide for it, especially in females, and in young men of studious character. Instead of restraining their movements, and blaming the disposition to frolic, they should be allowed and advised to it, at proper times, and in becoming modes.

Next to walking in the open air, the best exercise for a young female is dancing. This brings into action a large part of the muscles of the body and lower limbs, and gives them grace and power. The mode in which I wish to recommend its use, is not in balls and parties, and crowded assemblies, but at home, alone, or with two or three friends, or in the domestic circle. As this practice does not give motion to the upper limbs, and as the exercising them is too apt to be neglected, it is important to provide the means of bringing them into action, as well to develop their own powers, as to enlarge and invigorate the chest, with which they are connected, and which they powerfully influence. The best I know of is the use of the triangle.* This admirably exerts the upper limbs and the muscles of the chest—and, indeed, when adroitly employed, those of the whole body. The plays at ball with both hands, and that of dumb-bells, are useful. The parallel bars afford a very fine exercise for the muscles of the body and upper limbs. Battledoor I should recommend to be played with the left hand as well as the right—a habit, like all others, acquired by due practice. While

* The triangle is made of a stick of walnut wood, four feet long, an inch and a half in diameter. To each end is connected a rope, the opposite extremities of which being confined together, are secured to the ceiling of a room, at such height as to allow the motion of swinging by the hands.

I particularly mention these, I should advise as great a diversity as possible, in exercise and amusement: so that, when the mind or the muscles get fatigued with one, they may take up another with fresh ardour. Every seminary of young persons should be provided with the instruments for these exercises: they are not expensive, occupy but little room, and are of unspeakable importance.

While active exercises should occupy time sufficient to excite the circulation, and to put in motion the organs, there must also be an occasional relaxation. At proper intervals, the whole muscular apparatus should be allowed to repose. I do not mean that the young lady should sleep during the day; but I wish to advise a graceful attitude on a couch or sofa, as a necessary alternation to muscular or mental effort.

The remarks last made have reference principally to the exercises of young ladies, who are more likely to suffer in this respect, in our plans of education, than the other sex.

The necessity of cultivating the physical powers in young men is sufficiently understood. The establishment of gymnasia through the country, promised, at one period, the opening of a new era in physical education. The exercises were pursued with ardour so long as their novelty lasted; but, owing to not understanding their importance, or some defect in the institutions which adopted them, they have gradually been neglected and forgotten, at least in our vicinity. The benefits which resulted from these institutions, within my personal knowledge and experience, far transcended the most sanguine expectations. I have known many instances of protracted and distressing affections wholly removed;

of weakly organized forms unfolded and invigorated, and of the attainment of extraordinary degrees of muscular energy and elasticity in persons in health.

The diversions of the gymnasium should constitute a regular part of the duties of all our colleges and seminaries of learning; and to give them the requisite power of excitement, the system of rewards, so dangerous when mismanaged in literary education, might be introduced without any ill effect. Our young men may surely find time to cultivate those exercises which Cicero and Cæsar, and some of the most studious among the ancient and modern philosophers, considered necessary, and contrived to prosecute in the midst of their studies and affairs.*

If the gymnasium is deserted because it calls for too much effort, let me entreat them at least to adopt a regular plan of walking. Two hours a day must be devoted to this business without relaxation, unless they are willing to carry the mark of disorder in the face while young, and a dyspeptic, nervous, disabled frame through that part of life which requires health and activity.

* Cicero is described by Plutarch, as being, at one period of his life, extremely lean and slender, and having such a weakness in his stomach, that he could eat but little, and that not till late in the evening. He travelled to Athens, however, for the recovery of his health, where his body was so strengthened by gymnastic exercises, as to become firm and robust; and his voice, which had been harsh, was thoroughly formed, and rendered sweet, full, and sonorous.

In regard to Julius Cæsar, the same author informs us, that he was originally of a slender habit of body, had a soft and white skin, was troubled with pains in his head, and subject to epilepsy; but, by continual marches, coarse diet, and frequent lodging in the fields, he struggled against these diseases, and used war, and the exercises and hardships therewith connected, as the best medicine against these indispositions.—*Sir John Sinclair.*

I have often been asked how it is the German literati preserve their health without exercise. Some of them are known to pass most of their time in study, and think not of wasting their precious moments in taking care of their bodies. To this I reply: first, that they are careful to acquire a good constitution by habits of activity while they are young. The organs are properly developed, and confirmed in healthy action. Secondly, they do not break down their strength by luxurious ways of living and the free use of stimulant drinks in early age. Thirdly, which is the great secret, they live most abstemiously. The digestive organs are not overburdened with food, and stand not in need of extraordinary efforts to relieve them.

Let those who are compelled to sedentary pursuits, seasonably lay aside one-half of their ordinary food, and they will experience no loss of time in combating the horrors of dyspepsia.

The inhabitants of the Philadelphia Penitentiary, confined to a uniform regimen, which of course limits itself, enjoy uninterrupted health. Those who were diseased from bad habits before they became its tenants are effectually cured after a short residence.

Regulation of the food is of primary consequence towards the formation of a good constitution. The most common error in relation to it consists in the use of too much food. Nature has given us organs of a certain capacity, on the presumption that, being called on to manual labour, we should then require a large quantity of food. Muscular efforts exhaust the strength, and require renovation by nutritious substances; but when the muscular efforts are small, the quantity of nourishment required is comparatively trifling; and if, in con-

sequence of the capacity of the gastric organ, a large quantity is taken, the result will be pernicious, directly or indirectly. Parents are uneasy when their children eat but little, and would encourage them to eat against their inclination. No mistake can be more pernicious to health; and if persevered in, disease will infallibly result from it. When the child wants appetite, instead of being compelled to take food, it must be compelled to take exercise, unless positively ill, and then it must be compelled to take medicine.

The quantity of liquid given to young persons is decidedly injurious. The principal agent in the digesting process, is a solvent juice. The more this is diluted with fluids, the weaker it is, and the less perfect the digestive action. Animal food should be sparingly taken by young persons who use little exercise; and children generally do not need it. Bread and milk, and fruit, are the best articles for those who do not labour. Wine is highly pernicious to young persons. It is a slow but certain poison. Before the body has attained its full growth, there is an overplus of excitability; and if to this is added the powerful agency of wine, or any other stimulating drink, the constitution cannot fail to be hurt. Females are more injured by stimulating drinks than males, because their system is more susceptible of physical excitement. The nervous power is more energetic; the pulse and respiration are quicker; and the development of animal heat greater. Hence, I suppose, it is, that they require less covering in cold weather; and suffer more inconvenience from heat than the other sex.

Females are unfortunately compelled by fashion to adopt partial and unequal coverings of the body. A part of the chest is very much covered, while another

part is wholly exposed. The dangers which spring from fashion are more easily pointed out than avoided. They serve at least to place in a clearer light the necessity of inuring young females to exposure, and invigorating them by exercise.

There is one part of female dress, the dangers of which have been made known, but which still, I fear, continues to be practised; I mean the girting the chest.

In what notions of beauty this practice took its origin, I am unable to discover. The angular projections formed by a tightly drawn cord, are in direct opposition to the models of Grecian or Roman beauty. In the flowing robes of the Juno, the Vesta, and Diana, every part is light and graceful. Nor have I been able to discover, in the representation of the Muses or the Graces, any habiliment which would lead us to believe they wore stays or corsets. The taste of the other sex is uniformly opposed to the wasp-like waist and the boarded chest. Yet, strange as it seems, there is scarcely a young lady of fifteen, who has not imbibed a disposition for this species of application, and scarcely a well-dressed lady of any age, whose chest is not confined in such a manner as to impede the motions of respiration and the free use of the muscles of the upper extremities. It is true we are constantly told that they are uncomfortable without these appendages; but this only shows what great inconveniences we can, by habit, become accustomed to. The Indian nations, who consider the flattened forehead to be a beauty, confine the heads of their infants between two pieces of board corded together, and the child exists under this pressure and may grow up. Yet there can be no doubt that diseases are generated by it; that some lose their lives, and others

their intellects. Still the fashion continues from age to age; for I have now in my possession flattened heads which must have lived some hundreds of years since, and others which have belonged to individuals of the existing generation.

Nature has so contrived the human chest that there is no superfluous play of the parts composing it. Its movements are just sufficient to give such an expansion to the lungs and such an extent of oxygenation of the blood, as are adequate to the wants of the individual under different occurrences. In females, the chest is shorter than in males; and to compensate for this, the motion of the ribs is naturally more extensive and more frequent. Whatever limits this motion is, therefore, peculiarly injurious to the sex; especially as they are more disposed to consumption and other chronic affections of the lungs. Now, the ligatures in the fashionable dress are placed precisely on that part where the motion should be greatest, that is, the lower part. It is precisely here, that, in case of fracture of the ribs, when we desire to stop the movements of the chest, we apply a tight bandage; though rarely do we venture to make it so tight as the ordinary corsets. The effect of such pressure, begun at an early period of life, will be understood from what has been stated in regard to the spine. The bones must yield to it; their shape becomes permanently altered; the lower part of the breast contracted; the space destined by nature for the heart and lungs diminished; and what the fatal results of all this on these tender and vital organs are, every day's experience shows us. The influence on the health, though slow, is certain. It may not at once produce consumption; but it lays the foundation for ills it would

pain you to hear and me to describe. I will only say, by way of specification, that, among other diseases of which this is the fruitful germ, I have known three instances of perpetual headache, at last bringing on insanity and terminating in death. The immediate cause of the disease was the compression of the heart and great blood vessels, and the consequent accumulation of blood in the head.

As young ladies are disposed to this practice, probably by fancies communicated by their companions, those who have charge of them should not only prohibit these applications—they should, for themselves, observe whether anything is wrong; and after the young ladies have reached the age when dress is considered a primary object, they should resolutely oppose every encroachment on the rights of the vital organs, beyond what is required by a decent attention to the prejudices of the day.

If I might call your attention to other topics of interest connected with this subject, I should advert to the constant use of cold-bathing, especially the shower-bath, as very conducive to invigoration of the body and to lessening the susceptibility to the injurious effects of cold on the surface of the skin. I would speak of the advantages of regular friction over the whole surface, and especially the chest and the neck, those parts which are constantly to be exposed to the air. The judicious use of the voice by reading aloud, I should highly commend. It invigorates the lungs, and gives action to the whole digestive apparatus; but I should not speak so favourably of singing—a delightful accomplishment, indeed, but only to be pursued by those whose chests are ample, and pulmonary organs vigorous. These subjects I can

barely allude to, without entering into the details of their particular application, having extended these remarks much beyond my original design.

Let me conclude by entreating your attention to a revision of the existing plans of education, in what relates to the preservation of health. Too much of the time of the better educated part of young persons, is, in my humble opinion, devoted to literary pursuits and sedentary occupations; and too little to the acquisition of the corporeal powers indispensable to make the former practically useful. If the present system does not undergo some change, I much apprehend we shall see a degenerate and sinking race, such as came to exist among the higher classes in France, before the revolution, and such as now deforms a large part of the noblest families in Spain;* but if the spirit of improvement, so happily awakened, continue, as I trust it will, to animate those concerned in the formation of the young members of society, we shall soon be able, I doubt not, to exhibit an active, beautiful, and wise generation, of which the age may be proud.

* I am informed, by a lady who passed a long time at the Spanish court, in a distinguished situation, that the Grandees have deteriorated by their habits of living, and the restriction of intermarriages to their own rank, to a race of dwarfs, and, though fine persons are sometimes seen among them, they, when assembled at court, appear to be a group of manikins.

ON THE DISCIPLINE OF LARGE BOARDING SCHOOLS.*

By G. LONG.

(From the Quarterly Journal of Education, No. XIX.)

THE question of discipline, or the management and government of boys in schools, is now beginning to receive that attention in England to which its importance entitles it. But, like many questions of a political and moral nature, it is generally encumbered with considerations foreign to the matter; the consequence of which is, that there is far from being that uniformity of opinion which would probably result from the question being clearly stated and fairly argued. Among our older writers, both Ascham and Locke have touched on this head. In Ascham's "Schoolmaster" it forms only a subordinate part of his subject, and is not treated with sufficient method: still his remarks taken singly are good. Locke, in his "Essay on Education," had mainly in view private and domestic education: but the excellence of his remarks on this division of the subject makes us regret that so just a thinker did not handle the whole matter of education, both private and public. It is true that many of his remarks, particularly those on beating boys, apply generally, and may help any dispassionate

* This paper was written in consequence of the opinions expressed in a letter addressed to the Editor of the Journal of Education.—This Letter, signed "A Wykhamist," is printed in the Journal of Education, No. XVIII.

inquirer in forming his judgment on this part of the question.

The practice of English schools in the government of boys, and particularly the practice of some of our public schools, has often been condemned in the Journal of Education; sometimes only incidentally, on other occasions in a more direct way. Such observations, it may be presumed, are not agreeable to those engaged in the direction of such schools; for though many masters may admit, to a certain extent, the truth of what is said, none like to have the establishments with which they are connected held up to public reprobation. There seems, however, to be no way of effecting a reform in such establishments, but by convincing people that they require amendment. No great improvement can be expected from those who have the management of these places of education, unless they see the necessity of making it; and the necessity for such change must have its origin in a conviction, generally diffused among parents, of the importance of a school-reform. This Journal has attempted to show that our schools require great modifications in order to become good places of education; and that our endowed schools particularly require to be remodelled, and to be placed under the superintendence of the State. In treating subjects of this kind, opinions must be founded on a collection and comparison of facts, some of which, supposed to be best suited to the purpose, are stated as the grounds of coming to certain conclusions. There may be error in stating such facts, and, no doubt, mistakes are sometimes made: but no statements as to schools have been made in this Journal without previous inquiry; very few facts here stated have been called in question, and none have been

proved to be erroneous without being afterwards corrected. If any person, whose name is a sufficient guarantee that he deserves credit, will point out any misstatements in the Journal of Education, as to any place of education, his observations shall be inserted, and he shall have our thanks for his pains. As to the nature of the instruction and the discipline in schools, either public or private, those are better, because more impartial, judges who are not engaged in the direction of such schools than those who are—provided they have had sufficient opportunities of knowing what schools are, and provided they have duly reflected on all the parts of this extensive and complicated subject.

After these preliminary remarks, it may be expected that the Editor of the Journal of Education should give his reasons for having sanctioned both attacks on the established modes of education, and on the discipline of the public schools of this country. As the opinions which he holds on the matter of education are nearly altogether inconsistent with those of "A Wykhamist," it will be better to enter on the general subject without taking the paragraphs of the Letter in regular order and commenting on them. It is only necessary to premise that the following observations refer almost entirely to large boarding-schools; whether they be endowed schools, or speculations of private individuals, is immaterial for our present purpose.

The term Education, which is generally used in the limited sense of instruction in certain branches of knowledge, comprehends, as we use it, all the means for forming the entire character of a man. In ordinary language, and in common practice, it is indeed restricted very nearly to the teaching of two or three languages,

and a few branches of science; but even those teachers who confine their labours to this narrow and comparatively barren field, admit that education means something more than this: they admit this not by what they do, but by what they profess to do. Certain formal religious observances, the remnant of a more systematic and wholesome discipline, are now called "religious instruction;" under which term is comprehended that part of school education, the professed object of which is to make youth acquainted with Christian duties, to train them to the practice of Christian duties, and generally to make religious and moral men. The formal part of this branch of instruction is doubtless in many schools carefully attended to; and the practical part also may, in some schools, be successfully inculcated. Indeed, the terms of the charters and rules of all our endowed schools, and the printed prospectuses of our private boarding-schools, show that the founders in the one instance, and the individual speculators in the other, contemplate something beyond the mere intellectual instruction, which is given in certain hours specially set apart for that purpose. It is not necessary to attempt to ascertain very precisely what is now meant when the directors of schools profess to give youth a religious and moral education; nor could many of them, if they were asked, tell us exactly what they mean. What some of them mean is simply this: they make the announcement of "religious and moral education" in conformity to the opinions which they suppose to be prevalent among those who are likely to send their children. Others do really mean to say, that they wish, as far as they can, to train boys so that they shall be moral and religious men. They do not mean to say, that they have thought much

about the best way of doing this, nor that they feel competent from reflection and experience to do what they have undertaken. Still the terms "moral and religious education," so familiar in every person's mouth at present, show sufficiently, in a general way, what kind of discipline these terms refer to. All persons engaged in education, in some form or other profess to train youth to be virtuous: it only remains to see how they go about it, and whether their methods require improvement.

Among those teachers and those writers on education who have directed their thoughts more particularly to the formation of character, we find, at the present day, two classes, both included in the comprehensive name of friends of education, who are now beginning to show themselves more clearly, and to separate into distinct groups. One party believe that the inculcation of religious dogmas is of primary importance—that this inculcation should be commenced at the earliest age—that without a knowledge of, and a belief in, these doctrines, no man can have safe principles for his conduct in life—and that any attempt at education which is not based on Christian doctrine, and solely guided by Christian rules, is useless and even dangerous. Of this party we may say that the success of their labours seldom equals their expectations, and, mainly as we think, owing to their having neglected those other means without which bare doctrinal instruction can produce no results. The other party believe that the inculcation of religious dogmas at a very early age is not a good way of forming character, and some of them think that it is a very bad way: they believe that a regular systematic training, framed in accordance with the principles of human nature, and superintended by a man whose example shall be a proper

model for imitation, is the true way of forming a good character. They mainly trust to the repetition of a number of acts done in conformity to a general principle or truth for the formation of good habits; and they would endeavour to check or counteract all bad tendencies, and the development of all erroneous notions, by a constant and vigilant superintendence. Few schools have yet been administered on these principles, either long enough, or systematically enough, to prove how much can be done in forming youth to good habits. Still, among those who have carefully reflected on early education, there is a large number who believe that religious and moral precepts have in themselves very little weight in early age, and who believe that no mere teaching of doctrines, either religious or moral, is of any efficacy at all compared with the durable impressions made by the constant repetition of certain acts under the superintendence of the teacher.

Many well-meaning persons in this country, who have a firm belief in the necessity of implanting religious truths early in the mind, are apt to overrate the efficacy of this instruction, and to expect results from it which experience does not confirm, and which a calm investigation would never lead us to expect. This is the case with most of the schools for the poor in this country, in which the formal part of religion is almost the only thing taught. It is the case also in many private schools, where religious observances are kept with a strictness that to many parents seems to be the surest guarantee for the formation of a religious character in their children. The compulsory attendance on the ceremonies of religion in our colleges, and in some of our endowed schools, is another instance of this kind. But in all

these cases, it is well known, that neither an active religious belief, nor even a mere acquiescence in the truths of revealed religion, is secured in the majority of pupils by this formal teaching—much less are those habits acquired on which a man's right conduct depends. So much are all men governed by habits, and so little is the mass of mankind capable of reflection, that it is surprising that those who have shown so much zeal for the improvement of their fellow-creatures have not availed themselves of these truths. A large part of those who pass through life creditably and usefully never reflect at all either on moral or religious truth: many very ignorant persons are totally incapable of it; and yet they discharge the ordinary duties of life at least blamelessly, and if no very unfavourable influence turns them from the regular tenor of their course, they may pass through the world with a fair character, and on the whole do much more good than harm to society. Many owe this happiness solely to a calm temperament; but a considerable number to the accident of having been early accustomed to regularity and labour, and having had the good fortune, in after-life, to be brought into contact with those only whose example and general mode of life were decent and orderly. This is not a very high kind of character, it may be said; but it is a much better character than will be produced, in the majority of instances, by the mere teaching of any set of rules or doctrines, which are in themselves but feeble restraints on the desires and passions, and the feebler in proportion to the weakness of the understanding.

It appears, then, that in the schools for the poor, the practical influence of mere religious teaching has been exceedingly over-rated—a fact now admitted by many

well-informed men, who are still zealous for the propagation of Christian truth. It appears also that, in the schools for the wealthier classes, a similar erroneous notion is firmly fixed. The influence of the religious instruction, or the bare religious ceremonial, on the conduct of the boys, has been over-rated, and this mistake has contributed to a neglect of proper discipline. Not that this is the only cause why the discipline of all or nearly all our large schools is in its present deplorable state; for the total absence of a general superintending and corrective power (a power which can only be exercised by the State) has had a large share in producing this want of unity and sound principles of government in all our places of education: but adherence to the mere forms of religious instruction and the concomitant neglect of true discipline have perhaps done more. As the origin of our schools is traced to the ancient religious establishments of the country, it seems likely (indeed, we may say, it is certain) that the teaching of Christian doctrine and strict exercise in Christian discipline were formerly combined. The discipline gradually fell into disuse; but the teaching of the doctrines continued: and as this too has now become, in many schools, a mere matter of form, not considered near so important as the common lessons of the day, we cannot be surprised that it has altogether lost its efficacy, and that "it is so difficult to make a large school a place of Christian education *." It is clear that this must be a natural consequence, as schools are now constituted.

If the doctrines of religion, as either specially taught at some schools to young boys, or presented to them merely in the way of formal observances, as is the case

* Letter of "A Wykhamist," Journal, No. XVIII. p. 291.

in some other schools, could make that impression which it is their professed object to make, there would be no difficulty in governing any number of boys. The magnitude of the truths impressed on them, and the solemn sanctions under which they are delivered, would secure obedience to the commands of a parent, and to those of a master who is chosen by the parent as his representative. But this is not the way in which the moral government of the world is carried on, either as regards men or boys. The acts of a large part of mankind depend in a very small degree on their belief either in moral or religious truths; and this is a fact in the constitution of things which we can neither help, nor safely neglect: it is our business to look to things as they are and as they must be, not to fashion a system of our own, and expect the constitution of things to conform to it. If men have not been trained to act habitually right, there is not much chance of their acting right when a powerful influence towards acting wrong is present to them. The knowledge of what is right must be first taught by seeing others act right, and by being practised to do the same. The whole of the reasons for acting in this or that way lie not within the compass of a child's understanding, hardly within that of a man, certainly not within the compass of the understandings of the majority of men. But as the understanding of a child is gradually formed, the reasons for acting in this or that way begin to show themselves to the mind, even if no very great pains are taken to explain them; and as the understanding grows stronger, the teacher can present by degrees to his pupil the reasons for particular lines of conduct, so far as the reasons can be given to a child. But till some habit is formed of acting in a given

way, no reasons for conduct can be of any use. Hence, with young children, the will of those who are about them must be the sole rule of conduct, and it cannot be otherwise. It is fortunate for children when those who give them their first lessons set a good example; when they compel the children to that line of conduct which experience and reflection have proved to be best for children; when they teach them by actual experience, that they must submit to the physical and moral laws which govern the world, and that these laws cannot be violated with impunity; when they present to them as motives their approbation or disapprobation, which for children up to a certain age must be the sole test of the right or wrong of their actions. This education, if begun at home, would render the school education comparatively easy; but, unfortunately, youths are often sent to school in that state which renders their subsequent education frequently difficult, and sometimes impossible.

Still we may consider what school education should aim at, what it should attempt to do, if it cannot do it altogether; for the attempt itself to remove difficulties often opens to us unexpected means of accomplishing our purpose. It is the main business of a school education to form a youth for his future social duties as a citizen. To this end the body should be trained, by regulated exercise and wholesome diet, to discharge all the functions which are essential to health and to the development of the intellect; in which two conditions consist the elements of happiness, and without which happiness cannot be. The understanding is to be formed also by exercise, proportioned to its strength, and adapted to make it stronger: it should not be fatigued by more labour than it can bear, nor allowed to

become torpid for want of due excitement and exercise. The passions must be taught to submit to the judgment, and the pupil must learn, that, if he wishes to govern others (and he will wish to govern others, in conformity to the very nature of his existence), his first achievement must be to govern himself. "He that has not a mastery over his inclinations, he that knows not how to resist the importunity of present pleasure or pain for the sake of what reason tells him is fit to be done, wants the true principle of virtue and industry, and is in danger never to be good for anything. This temper, therefore, so contrary to unguided nature, is to be got betimes; and this habit, as the true foundation of future ability and happiness, is to be wrought into the mind as early as may be, even from the first dawnings of knowledge or apprehension in children, and so to be confirmed in them by all the care and ways imaginable, by those who have the oversight of their education*." In the power of self-control, then, consists the main difference between the virtuous and the vicious man: their desires must often be the same; but the one can resist, the other must always yield.

These are commonplace truths, it may be said, generally admitted, and generally acted upon. But some truths, whether commonplace or not, need to be continually repeated, to be presented under various aspects, to be enforced in various ways. No truths run so much risk of being little regarded as those which are universally admitted; though, for this very reason, that they are universally admitted, they are more important than any other truths, however great, which may be a matter of dispute. Thus, many religious truths, which are

* Locke on Education.

matter of dispute among religious sects, though of the highest importance in one point of view, are, in another point of view, of less importance than other truths, not religious, on which they are agreed. Truths on which all are agreed may influence the practice of all; but truths in dispute, though efficacious in the conduct of those who hold them, lose half their force from the opposition of those who hold them not.

But it is not a fact that these fundamental truths in education are generally acted on. In many schools of high note, there is no object, real or professed, but to teach boys some Latin and Greek, with a few other branches of knowledge, very imperfectly; and even in these schools, it is not unusual for the boys of promising ability to receive the chief attention in preference to those of less ability who require it more. The chief object is to train the cleverest boys to gain the dazzling honours of University prizes and distinctions, and to rest the reputation of the school on this narrow and worthless basis.

When a number of boys, of various ages, are placed under a master to be educated, we may consider them, for the time, as detached from their domestic relations, and as entering into a new social circle. We suppose the boys to board with a master, to live in his house as his family; we suppose them, in fact, under those circumstances which are most favourable for the exercise of all the master's influence; for it is obviously easier for a master to educate boys who live with him altogether, than to educate boys who only come to him during certain hours of the day for instruction. Parents transfer the education of their children to others whose profession it is to educate: parents themselves, who are

not teachers, have generally other occupations, which take up all their time, and those who are rich are seldom able or willing to superintend their children's education. They accordingly send their children to boarding-schools; and it is in these establishments that the influence of education is the greatest either for good or for harm.

Now, when a master undertakes to educate boys, he undertakes to govern and instruct a number of individuals, who have been brought up at home in a variety of ways, some with bad habits, some with good, but all with some peculiarities or propensities which require vigilant superintendence and frequent correction. Such an undertaking involves numerous difficulties, which can only be overcome by a man sincerely bent on the discharge of his duty, and well prepared for it by the possession of good sense, self-command, and an adequate amount of experience and knowledge. Were a master at once to take under his charge a hundred boys, total strangers to him and to one another, the difficulty of the task would be much increased: but it generally happens that he begins with a small number, if he forms a private school, and slowly increases it; so that the accession of new comers is gradual, and he has time to study their characters without much impediment to his regular occupation. If he enters on the charge of an endowed school, he at once undertakes the management of a large number of boys strangers to him, but not strangers to one another.

Most people who have been at any large school, especially a boarding-school, will recollect the feelings which they experienced on leaving home, and being thrown into a completely new society. Few events in life leave

a stronger impression, and none are more important for the consequences. From the day that a youth enters this new circle, his thoughts and actions become unavoidably affected by the thoughts and actions of others; it is, in fact, the beginning of his career as a member of society. He has exchanged the narrow circle of his family for a wider circle, which gradually embraces all the relations of social life. On entering the new society, he is like a stranger who enters a foreign country; he cannot do as he pleases, or as he is accustomed to do; but he must conform to that which he finds established. His words, his thoughts, his actions, in a few days, partake of the general tone, and the individual character is lost in that of the mass. And yet each individual, while he appears to be blended with the whole body, communicates to it something of his own; and sometimes, when he is gifted with more than usual vigour of character, or with propensities more vicious than common, the influence of one youth on the society which he enters is soon felt, but not always soon enough discovered.* The character of this new society which the boys enter, and the character of each boy that enters it, are two elements which require constant attention.

Boys, it is said, when they get together in numbers, will form a society of their own, and rules by which it is governed: they will fix a standard of morality, that is, some among them will become the creators of rules and customs, which the rest will follow from choice or compulsion. Such being admitted to be the case, must we leave them altogether to themselves? or impose abso-

* This is a subject of great importance, as we know from the evidence of several medical men.

lute rules for the whole regulation of their conduct towards the master and towards each other? or must we allow them to make regulations for their own internal government under certain limitations? The first of the three plans is the case in some private schools, as we know by experience: schools in which the attention of the master does not go beyond the bare instruction of the boys during school-hours. For these schools there are no terms of reprobation sufficiently strong. A boy who is sent into a prison to mix with rogues and vagabonds of all ages, does not come out of his prison more corrupt and impure than many weak and silly boys do from those boarding-schools, where the master's care is limited to the hours of school instruction. In such schools, if there is an usher whose business it is to keep the boys out of mischief during play-hours, it often happens that this only aggravates the evil. A master, careless of his most important duties, transfers to an ignorant man, whose wages are less than those of a footman, and whom he treats with undisguised contempt, the care of his boys during those hours when they require more than usual superintendence. This wretched state of numerous private boarding-schools of an inferior class requires a separate consideration.

The relationship of a master or masters to pupils refers to three divisions of time, which occupy the twenty-four hours: the hours of instruction, the hours of relaxation and exercise, the hours of sleep. The master's duties extend over all these three divisions, and his superintendence is not more important in one than in any other. But these three divisions of time point also to divisions of a different kind—a division or classification of pupils mainly according to age. As far as we know,

this classification is seldom made in England but for one purpose, for which it is obviously necessary, that of teaching, or that which has reference to the hours of instruction. Boys of pretty nearly the same age, and of acquirements not varying very greatly, form the respective classes. If education were organized in this country by reflecting heads, a classification of pupils would be made also with respect to the hours of exercise or recreation and sleep. On this proper classification depends the whole good government of a school of large numbers: without it, there may be government of some description, such government as we see in many schools, but differing as much from the good government of a school as a country in a state of anarchy differs from a well-ordered political community.

The difference in age which is found in the pupils of a large school is then the main principle of the classification. For the purposes of school instruction, the younger boys are formed into separate classes, are engaged on more elementary parts of their studies, and require more help and more superintendence than the elder boys. The school instruction of the younger classes is the most important part of the whole school instruction; for if this is sound and rational, it renders what follows comparatively easy and pleasant; and while a boy is approaching the upper classes, and attaining to the strength and understanding of manhood, he is at the same time forming habits of application, and beginning to perceive that he must now depend on his own industry for his acquirements. Thus with regard to school learning, as the boy advances in the school, he is more and more left to himself, which is not only necessary where there is a great number of boys, but

also a proper thing when he has gone through such a training as qualifies him for this state of comparative liberty.

But are there not more weighty reasons for exercising a vigilant control over the younger boys, out of the hours of school instruction, than during them? During the school hours their attention is occupied by their business: out of school hours, their attention is no longer thus engaged, and for this reason they require more looking after. It is a fortunate thing, that in many of our large schools, a great variety of games and athletic exercises have been long established by custom: they are the great means of government out of school hours, in the absence of other government. A master should encourage all exercises of the kind, for the double purpose of strengthening the body, and giving occupation to a portion of the twenty-four hours, which, if not spent in this way, may probably be very ill disposed of. But the exercises in a school, and especially those of all the younger boys, should be regulated by a master who has some knowledge of the best kind of exercises, who could show a greater variety than are known in our ordinary schools, and who could control and regulate them when either of an injurious character, or when carried to excess. Such a master we conceive to be an essential part of the establishment of a large school, in which the training of the body by suitable, and, we will add, systematic exercises, is as essential as the school learning, and, in our opinion, in which we may be singular, it is worth more. A variety of wholesome and proper exercises, taken within due limits, is absolutely necessary to strengthen the body and make it healthy; these exercises are of different kinds, suited to different

ages and different constitutions, and in the case of all the younger boys, they cannot safely be carried on without some superintendence. Even the older boys will in some cases find it advantageous to take the advice of one who has made gymnastic his study. If boys of the same age, or nearly the same age, are united in their games, there will be no great risk of the few, who may be larger and stronger than the rest, tyrannising over the weaker: the presence of the master, who would always be somewhere near during the play hours, would be a sufficient check to any tendency of this kind, and his own example would be an example to all the rest. For we assume that the master of gymnastic would never use any kind of force to those who are either unable or unwilling to join in the games of their fellows; and that, in giving them any instruction in any new kind of exercise, he would not find it necessary to use either harsh words or blows. The whole time out of school hours should be as strictly regulated as the hours of school instruction; all games and exercises should be carried on freely, and without restraint —but within the limits and rules laid down by the exercise-master, whose authority, out of school hours, should be as large and complete as that of the head master in the school hours.

We must insist still more on the proper conduct of the games and exercises of a school, because they may be made, and ought to be made, the basis of the whole moral discipline. Though much neglected in most private schools in England, the importance of this part of education is beginning to be felt; and we hope that some of our medical writers who have paid attention to the subject, may soon give it that complete examination which none but a physician can do. An able writer has already

pointed out the numerous and complicated evils which result from the want of exercise in female schools. Boys, fortunately, get a much larger amount of exercise; but it is often carried to excess, and for some constitutions is of too violent a nature and also of a wrong description.* Boys require different kinds of exercise for the purpose of developing the different parts of the body: and such exercises, if well directed, will correct many little defects and weaknesses to which boys are subject. We are persuaded that boys at school often suffer permanently from the injudicious nature or excess of some of their amusements. Still the taste for these exercises exists in this country, and they are, even without direction, productive of great good, but might, we think, be conducted better by the whole school being placed, as to its exercises and games, under the superintendence of a master or officer; and indeed, as we have already remarked, it is more necessary, in our opinion, for this superintendence to be exercised out of the hours of instruction than during them. As the elder boys, with respect to school instruction, are gradually withdrawn from the more particular superintendence of the masters, so we would allow the older boys more freedom during the hours of relaxation, but not a total freedom from superintendence. If they have been well trained, they will have no wish to save themselves a little trouble by requiring the services of younger boys during the play hours, as is the case where fagging is in fashion; nor will the idea ever enter their heads that they may turn the young boys into ministers to their own amusement. If the younger boys are carefully brought up without submit-

* See some judicious remarks on over-exercise in the work of Dr. Combe, reviewed in this Journal, No. XVI.

ting to the commands of their elders, they will have no inclination, when they grow older, to call for the services of their juniors.

The fault of most large schools of which we know anything, is not the severity of the discipline, but the want of discipline and order. It is not strict discipline in an army to allow drunkenness, or any other irregularity, to go unpunished, if not carried beyond a certain point, but when it goes beyond this point to visit it with a cruel punishment. Strict discipline does not allow the opportunity of committing the fault; and with this object its ordinary regulations are stricter than in an army, where faults are only punished when they attain a certain magnitude. In addition to a completely organized system of discipline out of school-hours, we would wish it to be well considered how far the services of servants should be allowed to boys. We would allow them no further than is absolutely necessary for attendance on their meals, and keeping the beds and the bed-rooms in order. Every boy should be taught to do many little offices for himself, not to expect them from a servant, much less from another boy, certainly not from a boy younger than himself, who rather requires assistance than is in a capacty to give it. Our correspondent (Letter, p. 290) says, "that many a man who went from Winchester to serve in the Peninsula during the last war, must have found his school experience and habits no bad preparation, not only as to power of endurance, but in the helpfulness and independence gained during his training as a junior." But many officers who never had the advantage of being *fagged* in youth behaved as well as any Winchester boys, of whom it is here said, that the school-fagging *must* have been to them a useful preparation for a campaign.

But it is quite as easy and quite as fair to say, that the fagging *must* have been a bad preparation. A regular systematic discipline, as strict as that of a good military academy, would have been a much better preparation for the campaigns of these Winchester boys. But how many delicate youths have suffered severely from fagging at public schools, have had their health injured, and their spirits broken? We should have a list of them, as well as of the heroes of the Peninsula.

If school discipline is intended to accomplish any good purpose, it must be framed by a competent head. It must proceed from the sovereign authority in the school, that is, the head master, or those who delegate their trust to the head master. But as the sovereign power in a state cannot be entirely exercised by the sovereign, but must be delegated to various subordinate authorities, so, in a school, authority must be delegated by the head master to those who are under him, and sufficient authority for all the purposes contemplated in the scheme of division of labour. The simple question, then, is, can any portion of this power be delegated * beneficially to the older boys, or to the higher classes in a school? for it is on this view of the nature of the power exercised by the higher over the lower boys, that what is called fagging is defended by "A Wykhamist," and maintained to be good. It is not true that this is the state of the case; but let us see what must be the consequences if a certain power, it matters not how

* See Letter, Journal, No. XVIII., p. 286. The "power of fagging" is there defined to be "a power given by the supreme authorities of a school to the boys of the highest class or classes in it, to be exercised by them over the lower boys, for the sake of securing the advantages of regular government amongst the boys themselves, and avoiding the evils of anarchy—in other words, of the lawless tyranny of physical strength."

much, be delegated to the older boys, or more advanced boys in the school, over those who are younger or less advanced in their studies.

The power thus delegated may be either expressly delegated, or it may be tacitly delegated, in accordance with certain positive rules existing in the school, which have grown up entirely among the boys, and have been transmitted from one generation to another. On the former supposition the master makes the law, and the older boys are merely the administrators of it, and, as such, ought to be, and perhaps may be, made responsible to the lawgiver; they become, in this case, for certain purposes, a kind of assistants to the master. On the latter supposition, a master, on being appointed to a school, adopts the custom which he finds existing, and thus gives it the force of a law. If a new master, on entering a school, tacitly allows any custom among the boys, be it good or bad, to exist without his express sanction, he admits the principle of allowing boys to make rules for their own conduct and government. And this is the general practice as to fagging. Of the remote origin of the custom we say nothing: it may have originally proceeded from a master, or it may have grown up among the boys; the latter is probably the true account of the matter. Now, the object of a school is, that boys should receive all those regulations which are to be imperative rules of conduct from the master, who is supposed to be wiser and better than they are, and it cannot be safely left to boys to make any one rule of any kind that shall be in force without receiving the express sanction of their master. The rules which boys would make among themselves, if they had full liberty to make rules, would be such as would be

subversive of all order and decorum. It may be said that no rule established among the boys would be tacitly sanctioned by a judicious master, if it were a rule that had a decidedly bad tendency. But here we are on the question at issue; the master does tacitly assent to the authority of older over younger boys; he says the rule is a good one, and we say it is bad. But why allow a rule or custom to exist by tacit permission about which there can be two contrary opinions? Let it be known generally that you say the rule is good and wholesome, and you will have established at least one good rule in doing so, that of allowing no customs to be in force in the school without your declared sanction. Customs, if such there be, that cannot receive your declared sanction, will thus want the authority that alone can give them weight, and will probably die away, as being clearly against what you declare to be proper. A master who is in favour of fagging, and expressly by words, or acts equivalent to words, gives it his full sanction, may be doing a very bad thing, but still he does it in a proper way. All that we can say of him is, that he has organized a bad scheme of discipline. A master who may be said to tolerate fagging, to wink at it, deserves severe censure.

But suppose the power to be expressly delegated, you cannot then well escape defining it. To expressly delegate to older boys a power over younger boys, and not say exactly what it is to be, and not to see that it is never exceeded, would be to delegate a power greater than that which you give to your masters. And yet you do not suppose that the older boys are so competent to govern younger boys, in any respect, as those who are expressly chosen to educate and instruct the younger boys.

And if you define the authority of the older over the younger boys, what shall it be? how much, and to what end? If it were to help, to instruct, to advise, to keep out of harm's way, the end would be good, and one could only complain that the means were not the best chosen. To do all these things is the business of teachers, who are, or ought to be, better qualified for it than boys. If not for these ends, for what ends will you delegate power to older over younger boys? to save the older boys some little trouble which they ought to have been taught not to regard, to make the younger supply the place of a servant, or to do any one act of any kind at the bidding of the older boys? But your older boy, if his native goodness of disposition is not already half spoiled by previous servitude, wants not the services of the younger: he can do all he wants for himself. What full-grown man, who deserves the name of gentleman, is always summoning a servant for every little office that he wants? The only relationship which should exist between the older and younger boys of a school should be exactly of the opposite kind to that which is inherent in a system of fagging. In the good example of the older boys, in their obedience to the rules of the school, in the friendly and confidential communications between these boys and their immediate instructors, in their willingness to assist a younger boy when occasion offers, the younger should see an example for their imitation, and an object of noble ambition. If the relationship is of a different kind, if it consists in a power given expressly or tacitly to the older to claim certain services from the younger, the result will be altogether different. It will satisfy nobody, whether he knows the actual state of a public school or

not, to be told that this authorized and legalized power is the best security to the young against oppression, to be told that the power is not often abused, and that the young boy suffers less under the legalized system of fagging than if there were no legalized system. The facts are not so in all schools where there is fagging: they are not so at the present moment, and hundreds know this to be the case, and will assert it as strong as ever, whatever may be said on the other side. And who that knows what all boys must be, and what many masters are, places any confidence in this as a correct picture of the case? When power is exercised with no more responsibility than that which is stated by "A Wykhamist," it is certain that frequent and gross abuse of it must occur, just as it is certain that when a man is in the habit of inflicting blows on another, they will often be dealt out for imaginary faults, and be only the indication that the blow-giver is under the influence of passion, and not that the blow-receiver deserves punishment, or will be the better for it. We are told on good authority, and we believe it, that in one of our public schools at present (for our direct evidence goes no further than to one school as to this one point), not only is the junior subject to the commands of some one of the head boys, but that when not actually employed by his master, any senior boy who chooses may call upon him for a bit of extra work; and in that capacity the junior does pretty nearly as much work for others as for his own particular master: nor will his master save him from any thrashing or ill-usage from a senior boy, when he (the junior) is not employed in his particular master's service. In addition to this, there are certain hours in the day when certain fags are a kind of servants

of all work for the general benefit of the school; and this remark specially applies to the hours when the boys on the foundation are shut up at night. At this time the fags receive the orders from their superiors who may want such things as pies, meat, porter, &c. The fags carry the numerous messages to the door, which is locked, on the outside of which stands a servant, who receives all the orders and brings what is wanted from the cook-shop or other place. This service may seem a small matter on the part of the juniors, and, as our correspondent would say, contributes to give them a certain "helpfulness and independence;" but when we consider the number and variety of the orders, the danger of confounding some or forgetting others, with the additional risk of the servant on the outside making some blunder, and that the fags are liable to be thrashed, and most certainly are thrashed, if all the good things, of which they have no chance of partaking, do not come duly to hand—it will appear that this is really a hard and odious servitude. But it would be endless to describe all the confusion, bullying, and tyranny, that are the necessary consequence of a large number of boys of various ages being all shut up in one room without the superintendence of a master.

Still the great objection to the fagging system is not the services required of the juniors, nor the abuse of the power which the elders exercise: we are led to the consideration of the main objection by what we have just stated; and the main objection is briefly this: The system brings the older and the junior boys too much in contact, considering the difference of age and of physical and intellectual development. This truth, which is of the highest importance, is admitted to a certain extent

by the regulations of some private schools in England, but more so in some on the continent. We shall briefly explain this matter: various considerations (some of them incident to the present state of society) prevent a complete exposition in this place.

The relationship between men and boys must not be confounded with that between older and younger boys. Men have learned by experience that they must regard public opinion, and, if they cannot entirely govern their passions, they feel the necessity, at least, of concealing their actions, and of using caution in their expressions, not only before men, but more particularly before boys, who are quick to observe and ready to report. Boys do not observe the same decencies towards one another when they are thrown together in large numbers: their actions and their words are often without reserve: their society is not the world, but a small part of it; they know that they are not men, nor subject to the strict rules of man's society: a certain degree of licence will prevail among them in the best regulated schools. Now as to many matters, we can readily admit that if boys were all mixed together, and allowed to form their system of morality, some good principles might be established. Lying, for instance, might (except in certain cases, allowed by the positive morality of the school) be generally despised, a feeling of courage might be generally diffused, and other similar qualities, though in no case do we admit that these principles would be free from considerable alloy, if the boys were entirely left to themselves; and the reasons for these principles would not be the right ones. But as to other matters, we should have different principles established among the

boys, and some of a pernicious character. The nature of the sexual relations is a subject that occupies the youthful mind from very early years, and is a never-failing topic of curiosity and inquiry. In schools this curiosity is encouraged and stimulated by the union of a number of boys; and especially, if those of a tender age are much with those who are older, are they exposed to this evil. The common results of this promiscuous intercourse, which are obscene language, coarse jests, and other things of the kind, are not the chief evil consequences: a prurient disposition is often formed at an early age, which becomes a source of great trouble to the person himself and to many others too. For this, among other reasons, the intercourse between the older and younger boys should be very much restricted during the play hours, but during the hours of sleep it should be absolutely prevented. Every school is a dangerous place in which a number of boys are put in the same room at night without a proper superintendent. But what must we say of those public schools where forty or fifty or more boys, of all ages, are shut up all night in a large room without any superintendence of any kind? Does it require a particular acquaintance with this or that school in order to enable us to say that the consequences must be pernicious, that the boundaries of decency are often violated, that the passions are stimulated by indecent stories and other means to a high degree, long before the physical development of the body would have made the sexual passion really felt? It is not necessary to know such places to say that such must be the consequences; but should it be said that a person is not qualified to write on such a subject without this

peculiar information, then we add that we *know* that such are the consequences of this impure and disgraceful system.

We still hope that those who are better qualified to treat this branch of the subject will not, from false delicacy, shrink from the task. Facts are abundantly known to some physicians who have had extensive opportunities of attending to certain mental disorders, the consequences of certain physical derangements; and no nobler object could be proposed to them than to show how those passions, which, when under due control, contribute so largely to human happiness, may not become, through the inattention and ignorance of the guardians of youth, the poison and the bane of their existence. The fundamental principle of correction, as to this matter, is the superintendence of the boys both by day and night, and the total separation of the younger from the elder in the sleeping-rooms. Many considerations besides these would be required to develope this matter fully; but in the active, systematic exercises of the gymnastic, and the strict, yet not severe, discipline of the school, the means for carrying out this principle would be found. A daily proper portion of bodily fatigue is the antidote to all wandering of the thoughts and dwelling on improper objects. In our schools many healthy boys take exercise enough of their own accord, and would often be better for taking less; but there are always some who are little inclined to indulge in athletic exercises, and these are they who specially require the encouragement and the direction of the master of gymnastic. A weakly and sickly frame is more liable to some of the evils at which we have hinted than a robust

and muscular body. The value of gymnastic in such cases cannot be estimated too highly.

We have said that the fagging system brings the older and younger boys too much into contact; to which it may be objected, that the fagging system has a tendency to separate the older from the younger boys: and this objection is a truth, but let us see if it consists with what we have said. The fagging system does separate boys into distinct classes; it does separate older from younger boys. The older boys have a circle of enjoyments peculiarly their own: within this circle there is no sympathy of any kind between the senior and the junior boys. The junior boys are not qualified by age, or in any other way, to participate either in the proper amusements and pleasures of the older boys, or in the improper amusements and pleasures of these boys. This, then, is a good reason why they should, to a great degree, be kept apart from them. But by the fagging system the junior boys are brought into contact with the senior boys, not as participators in their pleasures, but as ministers to their pleasures, their wants, and their caprices: they are brought into contact with them exactly under the circumstances which are most disadvantageous to both parties. The nature of this relationship (supposing the senior to abuse his power and to set a bad example, which no person can deny does often occur) is not unlike the relationship between a dissolute man and his servant. The bad master and the man are, we all know, as much separated as any two beings can be in one point of view; while in another point of view they are brought into very close contact. There are no sympathies common to the two which tend to improve either: there are abundance of

acts, of words, on the part of the master, witnessed by the servant, which tend directly to corrupt him. Were there no fagging in schools, and were the intercourse between boys, differing considerably in age, limited to that which it would be by the very nature of a good system, the intercourse between the older and younger boys would, we think, as a consequence, be of that kind which would exercise all their best sympathies; it would be sufficient for that purpose, and nothing more. In many of our schools where fagging exists, we have no doubt that many older boys do behave well to their fags, and do not take any improper advantage of their power: many masters also set a good example to their servants, use them well, and by their words and actions exercise a beneficial influence over them. An older boy, under the fagging system, may in some instances do the same towards a junior; but while we admit the possibility of this, we beg to observe that the analogy between master and fag, and master and servant, which we have pointed out as existing in a certain case, is not one that must be insisted on to any great extent, either for or against the system of fagging. In the case which we have taken, it seems to us to hold, so far as the influence of bad example goes. As to the abuse of power by the master, the servant can free himself from that, by taking his leave. In the case of the fag, the remedy is not so clear; and that the power of a senior over a junior is liable to abuse, and that it is not unfrequently abused, will, we think, be admitted even by the boys in our public schools. And how can this be otherwise, especially in those endowed schools where so many boys of different ages are so much thrown together, and shut up in the same room for so large a part of the twenty-four

hours? In these rooms, fagging probably had its origin, and no place so well calculated for the production of this kind of government.

Let us now see on what the supposed necessity of the fagging system, as explained by our correspondent, rests.

Boys (see "Letter of a Wykhamist," p. 287) in English boarding schools, "for nearly nine months of the year, live with one another in a distinct society:" "at their studies and at their amusements, by day and by night, they are members of one and the same society, in closer local neighbourhood with one another than is the case with the ordinary society of grown men:" "for this their habitual living they require a government." Doubtless they do require a government, and a good government: the question is, What shall it be? "It is idle," says our correspondent, "to say that masters form, or can form this government; it is impossible to have a sufficient number of masters for the purpose; for in order to obtain the advantages of home government, the boys should be as much divided as they are at their respective homes." It certainly is idle to say that masters in this country do, as a general rule, form the government; it is perhaps equally idle to say that they can form it, for they have generally neither the inclination nor the kind of knowledge, nor the habits that are necessary to enable them to form a good school government. But *why* cannot masters form this government? The reasons are curious.—(See Letter, p. 287.)—The object of a school, it is assumed, is to obtain the advantages of home government: to obtain this, boys should be divided as much as they are at their respective homes; there should be no greater number of boys under one master than of

brothers commonly living under one parent: nay, there should be fewer, inasmuch as there is wanting the bond of natural affection which so greatly facilitates domestic government, and gives it its peculiar virtue: a father with thirty sons below the age of manhood and above childhood would find them difficult to govern; but it is more difficult for a master to govern thirty boys who have no natural bond to attach them either to him or to one another; and *hence*, for all these reasons, if you have a large boarding school, you cannot have it adequately governed without a system of fagging; and hence it is concluded, that a government among the boys being necessary, the actual constitution of public schools places it in the best possible hands. This government of boys, it is further said, like every other government, requires to be watched, or it will surely be guilty of abuses.

All this rests on the assertion, that boys in boarding schools form a distinct society; that by day and by night they are all in a close local neighbourhood to one another; and that this must be the case. On that circumstance in the constitution of nearly all large boarding schools, which most reflecting men believe to be the radical evil in such schools, is grounded the defence of all the evil consequences which flow from it. But boys must not be allowed to form a distinct society of their own: they are not sent to school to form a society for themselves; they are sent to live in a society framed and governed by the intelligence and virtue of a man whose profession it is to train boys. Boys are sent to school, among other purposes, to be instructed in the knowledge of social life, not a social life founded on their own notions, but one which shall be a fit introduc-

tion to the social state of manhood. It is next assumed that "the advantage of home government is the object to be obtained at school;" but it cannot be obtained, and therefore the advantage of home government must be abandoned. There is then no reason, as far as we can see, for sending boys to boarding schools at all, for we do not choose to admit that the bare instruction itself is an object worth obtaining at the cost of the "advantage of the home government," supposed by our correspondent to be the best government. But it is generally supposed—and though the supposition is not always a practical reality, it is on this supposition that boarding schools were founded, and to the existence of this supposition they owe their continuance—it is generally supposed, we say, that school government is better than home government, and for this among other reasons boys are sent to boarding schools. And this supposition appears to us, on the whole, to be founded in truth: First, many parents have not time to give to their children that attention which they require, many have little inclination, many more are totally unfit for governing their children well, from defect of temper, education, and numerous other causes;* they therefore send them to a man who makes it his profession to undertake to do what most parents cannot do. Secondly, it is known that boys must some time enter on life, and that it is better that this entry be preceded by a proper state of preparation than by none at all, or by an incomplete preparation; and there is no preparation for boys so

* See Bishop Butler's Sermon, preached at Christ Church, London—"Consider next the manner, &c." Various parts of this admirable discourse have a bearing on various parts of the question discussed in this article.

good as to grow up among those of the same age, but not solely of the same family, provided all the society thus arising is framed and governed by a man who has made the government of boys his study. Again, the absurdity of the proposition is pushed so far by our correspondent, that he asserts, in order to obtain this supposed advantage of home government, that the number of boys under a master should be less than the number of brothers commonly living under one parent —that is, less than two. For the number of boys commonly living under one parent, to take the phrase in any sense that is consistent with a meaning, is not much above two upon the average of marriages in one of the most prolific countries in the world (Belgium); and if we take into the account the difference of age in boys of one family and the consequent departure of some of the boys from the paternal roof, while the others are still young, it is clear that some of the male children may have all the advantage of this home government to themselves, and in many families must have it all to themselves; that is, a boy must often be brought up alone, which no person will call a good bringing up. Further, "a father with thirty sons," or, we will say, a much less number, "all below the age of manhood and above childhood, would find it no easy task to govern them effectually." We are not much inclined to undertake any discussion with those who first assume an impossible case, and then take the benefit of the argument in applying it to a possible case. A man with thirty children below the age of manhood must evidently have several wives, and it is probable that this circumstance would considerably increase the difficulty of governing his family, unless he adopted our principle of division

and classification in his household; and even then he could not be always in all places at once. But suppose a man to have thirty children, and all his wives to be very obedient, and do their best to assist him in keeping good order, there is still a difference between him and the schoolmaster. The man with thirty children will have a profession or occupation of some kind; whatever it may be, we suppose his profession not to be that of training children: the schoolmaster's profession is to train children. Why cannot the schoolmaster do that which it is his profession to do, because the father cannot do that which it is not his profession to do? The father, if his only profession was to have thirty children, and to educate them, might, if he were a sensible man, do the thing very well. Much stress cannot be fairly laid on isolated cases within individual experience; but still, even in the present state of domestic discipline, is it a fact that large families are generally worse governed than small families? or is it a fact that a single child, or a couple of children generally turn out better than a large family? We doubt if this can be affirmed. It is a common remark that brothers do not agree very well at home; and whether the fault be in their parents, or wherever it lies, as things are at present, it is a common and a just complaint. Would not any schoolmaster rather have thirty boys, all of different families to govern, than thirty brothers from one family? In addition to all this, many single masters do govern thirty boys, and govern them on the whole very well, without blows, without harsh treatment, and on the whole with successful results. There is a school near London, consisting of about one hundred and thirty boys, taken from the worst part of society, young thieves and vaga-

bonds, who are well governed by one man with an assistant: no system of fagging, legalized or winked at, exists here; no blows are given; but strict discipline is enforced, and kind words and behaviour are the reward of those who merit them. The appearance and manner of many of these boys are much superior to what we see in our inferior boarding schools. Cannot that be done in boarding schools, where the boys are generally of decent families, and pay a large sum for their education, which is done in a school where the boys have been corrupted before they come, and the means of which are limited to a few private subscriptions? In this school for vagrants (at Hackney Wick, near London) the boys are employed in labour for the greater part of the day: the corresponding thing for a large school is systematic exercise.

Lastly, "this government of the boys," which is contended for, "like every other government, requires to be watched, or it will surely be guilty of abuses." This is a truth that we might guess without knowing practically what fagging is in schools; but there is an exception to the remark,—the government of the master does not require to be watched by the master, as the government of the boys requires to be watched by the master, and in this consists its superiority. But is this government of the boys watched in the way that it ought to be in schools? Is it likely that, where a master has a government of this description, established by long usage, and which saves him a great deal of labour out of school hours, he will take the trouble of superintending and watching this government, to do which effectually would be as much trouble as to govern on what we conceive to be right principles—a kind of government we fully admit, that will impose more labour on the master out

of school hours, than most masters at present undertake? The explanation of the mode in which this government of the boys works, as given by a correspondent, (Letter of a Wykhamist, pp. 287, 288,) is certainly a favourable view of it, and we admit fully that a system of fagging, as he there explains it, is a very different thing from a system of fagging as generally understood. But unfortunately it is a very different thing from a system of fagging as it exists. We do not mean to question the accuracy of the statement there made, as applicable to the school (not there named) to which we suppose our correspondent to refer; but we cannot consent to let this stand as a fair description of what is done in some other schools, in which the real working of the boys' government is very different from that described in the Letter of a Wykhamist, (p. 287,) and which many who will read these remarks know to be characterized by those brutal features which a wise, a benevolent, a conscientious master certainly could soften down, even without destroying the general character of the system itself.

We know that it will still be urged by many masters that it is impossible to govern a large number of boys in the way that we have recommended; but we are not aware that any sound objection can be made to it, except the number of masters that will be required. That this is not really felt to be an insuperable difficulty, we infer from the mode in which our correspondent has attempted to prove that it is so; we presume that the arguments urged on this head are the best that the case admits, and we leave it to any person's calm consideration to give them all the weight that they deserve. But the principle of a proper classification of pupils will much diminish the difficulty, if any still remains; and after

all, suppose two additional masters, beyond the number now employed, are required for every hundred boys in a large school, is this any real obstacle? Are not the terms of these schools high enough to allow the additional expense, or even a much larger one? When 80*l.*, 90*l.*, or 100*l.* are paid in schools containing 100 or 200 boys, surely a total income of 10,000 to 20,000*l.* per annum is enough to furnish every kind of instruction and superintendence that could be required. The 500 boys of Eton do not, on an average, pay less than 100 guineas per annum each; surely an income of 50,000*l.* a-year is amply enough to provide a complete education for 500 boys; and the masters, after all, would find themselves carrying on a more lucrative trade than almost any other profession. If parents should begin to be convinced that something of the kind above suggested ought to be attempted, it may still be urged by the masters that their labour will be prodigiously increased, even if their staff is enlarged, and that their emoluments, as boarding-house keepers, may be somewhat diminished. More masters will undoubtedly be wanted, and all the masters will have their hands full: perhaps also they may not make quite so much money as they now do. They will not only have to teach in the school, but to be much with their pupils out of school: the wall of separation between teacher and pupil must be broken down. The teacher must learn, that as he exercises a vocation of higher importance than any in the community, a vocation that all good men honour and respect—one that parents will learn to estimate rightly when they see its duties discharged fully,—so he must submit to much labour, and must devote his life to live with those whom he educates. If

these conditions are too hard, let him abandon his occupation, or bring to it the zeal which ought to animate him who clothes himself with the respected title of the educator of youth, of those who in a few years will form the men of the country, and the strength or the weakness of a nation.*

It is to the endowed schools of this country that we ought to look for those models of discipline that shall be an example to other schools; and yet, at the present day, while we find a few private schools conforming to the general system of these endowed schools (which they do merely in the character of preparatory schools for them, and under a certain influence called patronage), we see the most respectable private schools, and some of the new proprietary schools, adopting altogether a different system. This total want of unity, this anarchy in education, can only be remedied by the state placing all these establishments on a new footing, and providing them with a set of men well educated and trained to the profession of schoolmaster. At present, it is a mere chance whether a man becomes a master of a school or something else: if he is a man of ability and of honest intentions, a long experience makes him a good master,

* Where the terms of a school are low, and the numbers small, parents must be content with the kind of education which it is in the master's power to bestow. Where the terms are high, and the numbers are few or many, all may be done that is right to be done. All parents would do well to encourage the formation of large schools on reasonable terms: such schools are the schools for the middling and less wealthy classes of the country. By the union of a number of boys in such schools, they may obtain all the advantages of the best education at a cheap rate; and in no other way. Small, cheap schools cannot be good: large, cheap schools may be good. See some remarks which we formerly made on this subject, in the Journal of Education, No. XV. "Military and Naval Education."

so far as the system will allow: if he is not, the consequences are the total failure of the school for the life of one man, which may include the school-lives of several successive generations of boys. We are not yet sanguine enough to hope that the state will very soon undertake the greatest of all its moral obligations; nor do we wish to see a general school-reform attempted till the matter has undergone still further discussion. At present there are many new and imperfectly digested notions abroad, which require time in order to fashion themselves into a shape adapted to practice. The present political condition of this country is very unfavourable to reform of our institutions of education; and the various causes of this unfavourable condition may be resolved into one single cause—too great liberty. The various members which compose the sovereign power have no unity of purpose, and this disunion in the sovereign power shows itself in all the various forms of delegated power, in all institutions of education of all kinds, in every religious sect, in every private establishment of education. The liberty which all these several members mean, when they talk of liberty, is, the liberty of doing as they please, that is, the liberty of frustrating the main ends of a political community. The universities claim the liberty of admitting into these places (so-called) of public instruction whom they please, and of shutting out whom they please; the established church wishes to have the liberty of educating all the poor in its own way; the trustees and masters of endowed schools claim the liberty of managing them as they think best; and the proprietors of private establishments would, taken in the mass, cry out against any wise measures which should compel them to edu-

cate themselves before they educate others.* When we look about us for the means of putting this chaos into order, of checking all these liberties which are only so many mutual aggressions, we find among the contending elements of disorder no one which is yet powerful enough to control the rest. In the United States much ignorance and many absurd notions still prevail, and the liberty we have talked of has been abundantly active in producing mischief; but there is still this important contrast between them and us—the unity of sovereign power in the separate states for the purposes of the state government. The people only require to know that a thing is good, and the opinion *may* immediately be made practical. In Prussia, a wise government determines what is best for the people in matters of education, and compels them, for their own good, to a certain line of conduct. In England, half a dozen powers contend for the mastery, among which it would be difficult to say which of them, just at present, might most safely be intrusted with the power of reforming education. If there is any hope at all of beneficial change, it is in the Commons' House, operated upon by a profound conviction among those who are commonly called the middle classes of society. To produce this conviction should be the aim of every man who values the happi-

* By this we mean that no teacher should be allowed to teach, without having undergone a previous examination and having received a certificate of competency. On this question there is much difference of opinion even among those who are in favour of a school reform; and the question is not without its difficulties. Many of the objections which we have seen made to this proposition arise from certain confused notions of the nature of the sovereign power in a state, which we have no disposition to confute here, or indeed anywhere else.

ness, the peace, the safety of this country,—of every man who believes that the education of youth is the most important part and the basis of all civil polity.

A subordinate part of our subject remains to be briefly noticed; the mode in which a master can ensure obedience to his laws. With a proper classification of pupils, and with masters trained to their business, the maintenance of discipline in the school would be an easy consequence of a good system. In the present state of schools, it must be a more difficult task. A government which subsists by violence and physical force, always causes more trouble to the governors than one in which the governors avail themselves of all the means of government which exist in the sympathies of our common nature.

It must be laid down as an unvarying rule, that a school not strictly under the rule of a master cannot be a good school; if the master cannot maintain his authority without blows, it is better that he should use blows than let his scholars be disobedient. It is also better that the punishment, whatever it may be, should be fixed and certain, in case of disobedience, than that it should vary with the caprice of one or more masters. Corporal punishment, or the infliction of bodily pain, is not the instrument of government in English schools only; it is the great means of government, though in different degrees, in political communities all over the world, and its frequent and indiscriminate application to offences seems to be pretty nearly in proportion to the state of barbarism in each country. Thus, in Turkey, the stick is, and still more was, the great instrument by which society was kept in order; and conformably to this high state principle, the stick is

the instrument with which a Mussulman schoolmaster rules the young disciples of Mohammed*. The adoption of so universal an instrument of rule must have its foundation in some principles of our nature as universal, and these principles are ignorance and laziness. The stick is an argument that is irresistible so long as it is wielded by a strong arm; it appeals to one feeling only, which all men have, and a very natural one too, a desire to avoid pain; it is encumbered with no complicated principles, which require reflection and analysis; it admits no motive short of it, and none beyond it; in fine, its arguments are irresistible when they can be enforced, and powerless when they cannot.

It is said, by a Wykehamist, that the idea of severe corporal punishment being ever now used in this country is a Blue Beard story, and that such assertions are ridiculous. In such matters it is always safer for a man to speak within the limits of his own knowledge, to say that in all the schools known to the objector there is no such thing, for other people have the same claim to credit when they assert the contrary. We say that corporal punishment in schools is often very severe; that blows, more than is good for the health, are often inflicted, and in large schools too, and we admit no claim of any one man to say that he knows the state of all the schools in England, when we know that his statements are not true of some schools known to us. But we contend that corporal punishment, to be of any use, must sometimes be severe; if not severe enough to frighten the boys into obedience, what is the use of it? If it is a proper thing in any case for a master to

* See Journal of Education, No. XVIII., p. 365, 'Foreign News.'

inflict a blow upon a boy, it is clear that blows should vary in force and number, according to the nature of the offence; and the offence being great, the blows ought to be many and hard. If this is not admitted, on what principle are blows to be inflicted? Surely not according to the mere caprice of the master. In arguing this question of flogging, we are supposing a *system* in which blows are the governing principle, for we conceive it impossible for any man to defend a system of flogging in which there is no system at all. We have always considered the systematic flogging of public schools (bating the indecency* of it) to be better than the capri-

* Those who know nothing of the English public schools, as they are termed, cannot well express their surprise when they hear for the first time the manner in which punishment is inflicted in these schools, and sometimes inflicted on boys of the age of seventeen or eighteen. We were not aware, till we set about making more particular inquiries, that the mode of inflicting this punishment varies considerably in our endowed schools. Nor did we know that it exists in some of very little note and reputation: in these schools, as we might expect, it appears in its worst form. In some schools the punishment is always inflicted in public before the school, which appears to be the least objectionable plan. The boy, who is to be flogged, looses his breeches, and the master pulls out the shirt so as to expose the lower part of the back, on which he operates with a birch rod. In some other schools it is generally done in private, and it is probably in that case more severe and less decent. But in such schools it is sometimes done in public also, when the nature of the case seems to require it. A friend informs us, that during the time he was at the Charter House, some years ago, a boy in the sixth form, and eighteen years of age, was required to loose his breeches *in medio*, that is, before the whole school, preparatory to being flogged. In some schools the posteriors are completely exposed during the ceremony of whipping, and this before the eyes of all. It is difficult to say what custom will not reconcile us to: there can be no doubt that this indecent exposure, which would shock one not used to it, produces little or no effect where it prevails.

The consequence of disobedience to an order for loosing the breeches would be expulsion, and, under the circumstances, a proper consequence; for we admit, as readily as any of our opponents may contend for it, the absolute necessity of the boys

cious punishment which many persons, and ourselves amongst the rest, have seen at a private school. A passionate man, and many schoolmasters are such, who has no regular system of flogging, will pinch ears, kick at the legs, pull the hair violently, and use very abusive terms: such instances of ungoverned ill-temper and brutal behaviour are not uncommon, and we speak within our own knowledge of having seen, not very long ago, such scenes, and of knowing that they are still common in schools, particularly in the north of England. An ignorant man, whom accident has made a schoolmaster, must govern by force, and the only bounds to his intemperate passions are actual fear of his pupils, before the stoutest and boldest of whom these unworthy instructors of youth have not unfrequently shrunk from their purpose.

Such a system of capricious punishment no one can defend, and we should not act an ingenuous part if we were to attempt to impute any approbation of such a system to our correspondent, though the vagueness of the manner in which he has defended the giving of blows, without clearly stating under what restrictions, lays him open to the charge of approving of blows any how inflicted, and for any kind of offence. But he who defends the infliction of blows should state for what kind of offences he would give blows, and how they should be inflicted. We can hardly imagine any person maintaining that a boy should be punished because he cannot learn something which he has done his best to learn; or if he be really very stupid and dull, still if he

being obedient to the laws of the school. The only point of difference between us is, what the laws should be, and how they should be enforced.

has tried his best, no man, we think, would consider blows a proper punishment. Corporal punishment is probably reserved by the more reasonable defenders of it for the infraction of positive rules of the school (which rules may be good or bad), for obstinacy, lying, and other like offences. If it would cure, or tend to cure these evils, something might be said in favour of it. But our correspondent seems to think that the boy is the only person concerned in the business, whereas it takes two to make a flogging, a boy and a master; and our main objection to flogging is founded on certain considerations that primarily affect the master. Our objection is this: first, it is very difficult, particularly if the occasions for punishment arise often, for the master to inflict the punishment with coolness and solemnity, and, as a general rule, in ordinary schools, punishment follows the offence too soon to enable the master to do it judiciously. If it is inflicted with any passion whatever, it is very likely that blows will be inflicted beyond what is just, and beyond what the master himself intended; he will exhibit to his scholars an example of ungoverned temper, he who is to be their guide, their pattern, and their friend; he will run very great risk of forfeiting all their respect, unless he be a man of more than usual intellectual strength, in which case he may command some respect, but will secure no love. We are all along supposing that the scholar is conscious that he deserves some punishment, and that all the boys would admit the justice of the punishment; but what will be the case if he thinks he does not? Suppose his offence to be a violation of some petty rule—suppose the master to be influenced merely by bad humour—is the boy in this case, as we

are told, to submit quietly to what he feels to be unjust? He may submit, but in his moral organization there is something implanted which resents this outrage, and we believe that this something is for good, not for harm. He feels contempt and indignation for the tyrant who abuses superior strength, and rooted hatred is his only feeling towards his teacher. Again, can a master, whose system is to govern by blows, expect the love and respect of those who are under him? If a boy finds that a blow is, in the master's mind, the extreme punishment, what value will he set on the master's approbation or disapprobation? What power has the master of influencing the conduct of his pupils, when the efficacy of the blows is exhausted? Boys, after a time, care not for ordinary blows; if blows are to do good, they must continually increase in severity, and, in course of time, nothing but extremely severe punishment can be efficient, even in securing *temporary* obedience; and extreme punishment must be adopted by those who defend blows, if their system is to have the merit of consistency.

We stop to meet a possible objection that may be made, of this kind. Under your improved system, in which the disapprobation of the master is to work such miracles, is it not possible that the master's disapprobation may be expressed in cases where the boy thinks he does not deserve this disapprobation, which you substitute for other punishment? and if this is so, will not there be certain bad effects, similar to those which you attribute to the infliction of blows, or at least some effects which are positively bad and perhaps worse than those from a blow, which is a thing that many boys soon forget, while words often remain in the memory? Let us see

how this matter stands. The expression of approbation or disapprobation implies reflection, caution, delay: the natural attendants of blows are passion and haste. There is therefore less chance of error in expressing disapprobation than in giving a blow. A blow also, as it has been well said by the Author of the 'Remarks on Flogging and Fagging in Winchester,' (See Journal of Education, No. XVII. p. 84, *et seq.*) is not a reason: it is not even a word; it is a blow, and nothing more. Disapprobation is expressed in words—in words which are not words of passion, but words that contain reasons and require consideration; and reasons expressed are immediately subjected to the judgment of those who hear them: if they are good reasons, they compel conviction and acquiescence. If they are bad, perhaps the master will find out that they are insufficient, before he exposes himself by uttering them; and here again is delay, which is the thing we aim at producing, between the offence and the punishment. But suppose the boy does not admit the master's easons; suppose all, or nearly all the boys sometimes do not admit the reasons for the expression of disapprobation to be adequate; and suppose the master's reasons are not adequate. But here again is a great difference between reasons and blows: the boys cannot deny that the master has acted with coolness, with deliberation, with a real intention to do his best; they cannot help approving of the mode in which he has expressed his disapprobation, even if he is mistaken. The master, on his part, will readily see how his opinion is received by the boys: if it is not received as he wishes, he must reflect on the matter, and endeavour to find out where he is mistaken; and it is very likely that he will not fall into the same error again.

A blow unjustly inflicted is a wrong done, for which no excuse can be given except that it was done in haste, which is no security against its repetition; whereas disapprobation, with reasons for it, even if the disapprobation is unmerited, contains in it something which is of the nature of security against a repetition. We have here supposed an extreme case. A well-trained master, who has reflected on the motives by which both men and boys are influenced, will not be in much danger of falling into such mistakes as we have supposed. His disapprobation will be founded on good reasons, and will be the ruling motive for the boys avoiding to do wrong. In the other case blows are the ruling motive. Now here stand the two masters, and let the boys choose between them: one holds in his hand the rod, and says if you do so and so, I will flog you; the other says, if you do so and so, I shall disapprove your conduct, and I shall show, by my behaviour, in private or public, or both, that I do not like what you do; I shall tell you why, and you will find that most of the boys and other people too will be of my mind. If you do as I wish you shall receive my public approbation: this is what I offer to you as the opposite of my disapprobation. What has my friend there with the rod got to offer you as the opposite of flogging?—when he approves of your conduct he will not flog you.

Any man who has had any experience in managing boys or dealing with men, knows very well how many circumstances occur in this intercourse which tend to irritate and annoy; and this quite independent of positive disobedience on the part of boys, or bad intention on the part of men. The natural outlet for this irritation and annoyance is action of some kind; and the

natural objects of this action are the causes of our irritation. Between men and men these feelings are checked by a knowledge that, if exercised unreasonably by any person, they will call forth the feelings in others which we name anger and resentment, without which corresponding feelings the first would run riot, and society could not exist. These antagonist principles are the elements of order in society; they produce mutual caution as to giving just cause of offence, lest anger and resentment should be excited. We are so constituted that we resist wrong, and endeavour to get reparation for injury; it is one end of society to help us in getting this reparation, and with this view the law fixes the mode in which reparation must be obtained.

As between boys and men, the case is different. Usage has given to men a power over boys which it has not given to men over men; and this power, as it is proportionally greater, and under comparatively little control, requires the greater caution in its exercise. But it is proposed to exercise this power occasionally (what the occasions proposed are, we do not know—'for *faults* of young boys' is the vague term that is used, Letter, p. 284)—it is proposed to use the power occasionally in inflicting blows on boys, from whom the same consequences cannot be apprehended as from men, and therefore a great part of the wholesome restraint above alluded to in the case of men and men, is here wanting. It is to be used by men who neither by education nor in any other way have any superiority over other men in controlling their passions; it is to be used by schoolmasters not trained to their business. It is certain then that it will often be used ill; it is a power that would be used ill by any man, whether school-

master or not. And the longer a man has been accustomed to inflict blows, the readier will he be to inflict them, and the more careless in discriminating the occasions for their application. A wise man is very cautious about inflicting a blow, especially on one from whom no resistance is apprehended; a wise master is cautious how he gives a blow to a slave who must submit; for experience tells us all, that our passions of all kinds grow stronger by indulgence, and that it is dangerous to exercise a power that may be used without fear of resistance. These arguments go to prove that it is very difficult indeed to inflict blows on boys, under any circumstances, without displaying passion, without exceeding the bounds of propriety which we ourselves acknowledge, and without forfeiting the respect of our pupils, and thus losing the strongest instrument of government in a school—the desire of the boys to obtain the approbation of the master. So great, we say, is this risk, that all men, particularly those of an irritable temperament, will probably lose much more authority by beating boys, even occasionally, than they would by abstaining from it altogether; and to those who are conscious of such infirmities of temper, we strongly recommend total abstinence from blows, which will infallibly set them on finding some substitute.

If, as is admitted (Letter, p. 284), 'the amount of corporal punishment inflicted may be reduced to something very inconsiderable,' it seems very difficult to find a reason why the little that remains need be kept. If it is good for anything, why part with any of it?—if it is not good, get rid of the remainder, for you will not say that having substituted 'the force of moral motives' for a large part of what was once flogging, you reserve

the right of a bit of flogging to fall back upon when you are hard pressed for other means. In fact, we do not understand the way in which the flogging argument is put by our correspondent, though we have read it with much attention. Whether the application of a little of the reserved right would help us or not we will not venture to say.

The writer of the article on Winchester School asserts that 'corporal punishment is degrading:' the author of the Letter asserts this expression to originate in a 'proud notion of personal independence, which is neither reasonable nor Christian, but essentially barbarian.' (Letter, p. 281.) It is not important to settle this point, which we leave as it stands. But it is important to see clearly what are the invariable principles of our nature, which remain the same whether names do so or not. Blows inflicted by a master under the mere influence of passion, as they often are and must be, blows inflicted when the boy who receives them and his fellows too know they are not merited, even according to the blow-giving code, will be accompanied with a sense of injury, and the boy will feel resentment.* Can anything be more absurd than to say that this feeling is wrong (we do not say that our correspondent says so), or that the boy should submit with all humility to the unjust correction of his superior in age? He feels resentment, and he cannot help feeling it: no teaching or preaching can eradicate this feeling; we presume, therefore, that the feeling is that kind of feeling which is necessary, and we pronounce it good. From the moment that a blow is given unjustly to a boy, all the natural feeling of respect and regard for his master

* See Bishop Butler's excellent discourse on Resentment.

disappears, and it is impossible that any good can be done after. Whether what we have stated is an imaginary case, we appeal to some who may read this article. A prudent governor, either of boys or men, will be cautious never to put himself in a situation in which he runs the risk of losing the natural respect paid to superiors in age and station.

If space allowed, we should insist still further on this topic, believing that as a general rule blows will be inflicted under the influence of passion, and that they do raise in the minds of boys a feeling of resentment, which are very sufficient reasons for not inflicting blows at all. As to a system of blows, which shall be the best possible system of blows, well regulated, strictly defined, enforced with all due solemnity, in number and degree varying with the offence, at certain intervals after all chance of passion in the master is over, and never felt by the boy to be undeserved—why all this supposes the efficacy and necessity of the blow to be entirely done away with, for it resolves itself into the ultimate principle of all school government and of all good society, the approbation and good opinion of those who are wiser and better than ourselves. When the matter is brought to this point—the offence committed, no anger or passion exhibited on the part of the master, but a firm resolution to punish, and no one to say that punishment is not deserved—when the matter is brought to this point, and the time for the punishment is come, will a blow add to the efficacy of the punishment? Suppose the punishment to be the disapprobation of the master, expressed either in private or public, as the case may be, accompanied with such personal restraint, or temporary separation from the other pupils as may be

judged proper, will a blow add to the severity or efficacy of this punishment, or take from it? We believe that the expressed disapprobation of the master, if the boys value his approbation or disapprobation, will inflict more pain, and pain of a kind to work good, than any blows in any way administered. If we have not said enough on the subject of beating, we refer our readers to Locke, in his 'Essay on Education,' in whose remarks they will find all, or nearly all, that need be said about it, which is here omitted, because it cannot be said better. Locke allows of beating, though unwillingly, in one case.

We have not touched on the effects which a practice of flogging, particularly under a passionate master, must have on the boys with respect to their intercourse with one another. A little reflection will show that the effects must be bad.

Young persons, as a general rule, readily imitate the conduct of those around them; they do as their elders do, think as they think, and in all respects repeat what they see and hear. This circumstance, this fundamental law of our moral organization, like all other general laws, may produce good or ill. Among the poor, the bad example of many parents, their ignorance, their want of cleanly and decent habits, their intemperance, and other vices, are a great obstacle to a reform in this part of society, because bad habits are in a perpetual course of transmission from one generation to another. The same remark applies to many rich parents: their extravagant and irregular way of living, their slavish devotion to established modes whatever they may be, their profound submission to all above, and their intolerable arrogance to those whom they suppose beneath them,

—all these things work on the youthful mind, and produce a copy as bad as the original. On the other hand, when parents, whether of high or low condition, whether rich or poor, set their children an example of industry, of temperance, of sympathy for the wise and good, whatever may be their rank and station; such an example, as a general rule, of itself, and without further teaching, makes, or powerfully tends to make, an upright, fearless, and truly honourable character. A master of a school is said, in popular phrase, to stand in the place of a parent, and if a master of a school were what all should be, and what some few are, he would not merely be said to be, but he would be, a parent, and more than a parent. His superior information, his earnestness in the discharge of his duty, his unvarying kind treatment of those who merit his regard, and his unwearied exertions both in and out of school-hours, could not fail to strike the boys as being something even more than a parent does for his children, certainly more than what most parents are either able to do or willing to attempt to do. A man whose intellectual character is based on sound knowledge (and this is an essential element in all moral character), whose natural tastes being simple lead him to seek the society of children, whose pleasures are derived from giving pleasure to others—such a man would, by his mere example, produce effects on his pupils as beneficial as they would be lasting. The man whose manners are coarse, whose language is harsh and abusive, whose reasons lie in the strength of his arm, and whose government is that of physical force, sets an example to his boys that they will infallibly imitate; and accordingly we do find in some schools where flog-

ging prevails, where the master calls his pupils hard names, and rules by creating fear, that the same principles are followed out by the boys, whose conduct towards one another is indecent, brutal, and cruel. Such an effect, produced by the bad example of a master who governs by fear and flogging, is not an imaginary thing, but a reality.

Among the numerous causes which have rendered flogging necessary as a means of government, there is one which is of very extensive influence. Many masters, as already said, become masters by chance: they have no love for their profession; they enter upon it from necessity. They are not well acquainted with the branches of knowledge which they profess to teach, nor are they acquainted with good methods of teaching. The consequence is, that the instruction is irksome to the master; dull, monotonous, and tiresome to the pupil. Continual blunders and listlessness provoke the master; and he discharges his irritation by giving blows, a kind of relief, under the circumstances, almost necessary. It might be better for the master to allay his uneasy feelings by running round the school-ground, or taking a few jumps, or venting his irritation on a figure of a boy stuffed with straw; but the real boy, the cause of his irritation, is before him, and the blow, or the abusive word, is directed to him. It is a lamentable thing that children whose curiosity is so active, whose desire to learn is so ardent and so pure, should be made so careless, so lazy, and so provoking, merely through the ignorance of their teachers: but this flows naturally from a system in which children are taught so little that interests them, and that little, after all, in a way the least attractive, and consequently the least effi-

cient. If the different branches of knowledge were taught in that order and in that manner which are best calculated to develop the faculties, the pupil would, as a general rule, be as willing to learn as the most zealous master could be to teach. Blows, so far from being required, would be altogether incompatible with such a system; the master would have pleasure in teaching, the boys would have still more pleasure in learning. Even the little boys would not require to be beaten for their *faults*: they would be ashamed of them as soon as they were committed. Of all the defences of flogging, that which goes on the notion of getting rid of a great deal of it, of not inflicting it on the big boy, but restricting it to the *faults* of the little boys, is the most pitiable and irrational. The younger the boy is (provided he has not been spoiled before he comes to school), the more active is his curiosity, the more eager is he to learn, the more disposed is he to feel the value of kind treatment when he knows that he merits it, and the more deeply does he feel the temporary loss of his parent's or master's esteem. This feeling exists most strongly in infants; it diminishes as they grow older, for it is not a result of reason, but a sympathy, of which the teacher ought to know how to avail himself. As the child grows older, this sympathy weakens, and it is our business to see that reason occupies the vacant place.

The author of the Letter (p. 282) has some observations on the principle of pain, a word that we have just used, which seem to call for a few remarks. There is no disputing some of the positions laid down by him in the Letter (p. 282), but how they all bear on the question before us, as explained by our correspondent, we do not

comprehend; nor can we understand the connexion of the several parts of the two paragraphs in which this matter is discussed. The following by itself is intelligible—'To say that corporal punishment is an appeal to personal fear, is a mere abuse of terms. In this sense all bodily pain or inconvenience is an appeal to personal fear; and a man should be ashamed to take any pains to avoid the tooth-ache or the gout. Pain is an evil; and the fear of pain, like all other natural feelings, is of a mixed character, sometimes useful and becoming, sometimes wrong and mischievous.' And this—'It is very true that the fear of punishment generally (for surely it makes no difference whether it be the fear of the personal pain of flogging, or of the personal inconvenience of what have been proposed as its substitutes, confinement and a reduced allowance of food) is not the highest motive of action, and therefore the course actually followed in education is most agreeable to nature and reason, that the fear of punishment should be appealed to less and less as the moral principle becomes stronger with advancing age.'

First we are told, that to call 'corporal punishment' an 'appeal to fear' is an abuse of terms; then we are told that in this sense—that is, if corporal punishment is an appeal to fear—the tooth-ache or the gout is also an appeal to fear. Such puerile attempts to obscure the real question hardly need exposure. The assertion would be true, if a schoolmaster could at his pleasure inflict a fit of tooth-ache, and many boys may congratulate themselves that he cannot, for assuredly tooth-aches would be more common than they are. An 'appeal to fear' may be a good or a bad motive, as our correspondent states. When 'corporal punishment' is called

an 'appeal to fear' (a mode of expression which we by no means justify), it is implied, we presume, that the wrong motive is presented, the fear of the rod, instead of other motives which it is presumed would better produce the desired effect.

We are further told that it makes no difference whether a boy receives a blow from his master as a punishment for some offence, or some other kind of punishment such as is there mentioned. But here again we have the matter put into utter confusion, for it is the *kind* of punishment which is the very thing in question. We all admit that punishment of *some* kind is necessary for boys who do wrong, as well as for men; and there is no great difficulty in seeing in what the differences of punishment consist, which we think unnecessary to explain at length, as anybody can find it out for himself by the following hints. The disapprobation of the master, the temporary loss of his usual kind regard, is a punishment different from confinement; and confinement is different from a blow on the hand with a cane; and a blow on the hand with a cane is different from a blow on the bare breech with a rod; and a blow on the bare breech with a rod is different from thumb-screws or any instruments of torture; and so on.

Finally, 'the fear of punishment should be appealed to less and less as the moral principle becomes stronger with advancing age.' 'Fear of punishment should be appealed to'—is not this an abuse of terms? We were told so just now. But this is a trifle. We are here told impliedly that we must begin our education with one of the lower motives, which we now learn is the true character of the 'appeal to corporal punishment,' an opinion in which we entirely agree; and we must appeal to it

less and less as the boy grows older, because as he grows older his moral principle becomes stronger—becomes stronger by his education being first subjected to that influence which is called one of the lower motives of action. We do not profess to understand how the moral principle becomes stronger under this arrangement. Nor are we quite sure that we understand what is here meant by the moral principle. As boys grow older their passions become stronger, and unless the power of self-control grows stronger at an equal rate, the whole boy is less adapted for right conduct than he was at an earlier age. He may know more as to what is best to be done, but he is subjected to more influences which tend to draw him from the right course. The power of conducting himself properly under these circumstances may be called the moral principle, and we presume this is what is intended. But this power does not come from increasing years, for with increasing years, when there is no right discipline, the moral principle, as thus understood, becomes weaker and weaker, as we all know. And this we believe to be the state of the case in many schools, not merely those called public schools. The passions increase with increasing years, but the power of self-control does not increase in the same rate, because there is no discipline specially directed to this object, as Locke suggests there should be.*

* A few alterations have been made in this article, and a few parts added, since it was printed in the Journal of Education.

LECTURE ON THE MEANS WHICH MAY BE EMPLOYED TO STIMULATE THE STUDENT WITHOUT THE AID OF EMULATION.

By JOHN L. PARKHURST.

Delivered before the American Institute of Instruction, August, 1831.

It has been the practice of most teachers to call in the aid of *emulation* to stimulate their pupils in the prosecution of their studies. By several writers, however, it has been maintained, that this is not a good or a safe principle of action. And many teachers, who resort to it, acknowledge its tendency to be dangerous, but justify themselves on the ground of necessity. They suppose it to be impossible to find other motives sufficiently powerful to produce the desired effect. The attention of my respected audience is now invited to a few remarks on "the means which may be employed to stimulate the student without the aid of emulation."* If

* It will be seen that the shape of the subject assigned by the directors of the institute precluded the writer from entering into a consideration of the lawfulness or unlawfulness of emulation as a principle of action. In the discussion which followed the delivery of the lecture, however, he was led to regret that he had not at least attempted a *definition* of emulation, and made a few plain *distinctions* in order to guard, if possible, against that confusion of terms and ideas too, by which the discussion was embarrassed. Indeed, without a clear idea of what emulation is, it would not appear but that the lecturer, in attempting to enumerate the best means of stimulating a student without the aid of emulation, had inadvertently recommended some methods which have a direct tendency to excite those feelings in which emulation consists. Is

such means can be pointed out, a favour will be conferred on those who regard emulation as an unlawful or an unsafe principle of action; while even they who have no scruples on that point may find the influence of other motives a desirable auxiliary in the work of education. The importance of the subject assigned me on this occasion is readily perceived, when we consider how general is the practice of resorting to the aid of emulation, in families, in common schools, and in literary institutions of a higher order; how powerful this principle is in its operation; and how great and lasting an influence it frequently has in the formation of human character. To do full justice to our subject would re-

emulation, then, as has been sometimes insinuated, a desire of advancement in knowledge and virtue? a desire of continued and indefinite progress in literature and science, and in the culture of the intellectual faculties? If so, the lecturer has entirely mistaken his subject, and has relied for success in stimulating a student, chiefly on that very principle which he professed to avoid. But he understood emulation, and he still believes it is generally understood, to be quite a different thing. *Emulation*, as he understood the term, is a love of *superiority*, a spirit of *competition* or *rivalry*, a desire to *outdo others*. It is altogether a *comparative* thing, and derives its whole gratification from a *comparison* of one's self with another, or some others, who are regarded as *inferior*, or as having been left behind in the race. It is a *selfish* principle, and utterly inconsistent with disinterested benevolence. One who is actuated by better motives might say to his fellow,—"I have a desire to press forward in the path of improvement and usefulness; I am determined to use every effort for the purpose. I should rejoice to see you do the same. Come, then, and go with me. We may each be a help to the other. It will give me pleasure to aid your progress by every means in my power. But if you remit your efforts, I must condemn your negligence. If you fail for the want of opportunity or ability, I shall lament your misfortune. Surely I cannot wish to see you linger behind. I should be base, indeed, to derive pleasure from seeing another destitute of a good which I myself enjoy." (For a more extended discussion of this subject, see the chapter on "Emulation and Ambition" in "Elements of Moral Philosophy," by the writer of the Lecture.)

quire an elaborate treatise on the principles of education. On the present occasion, being restricted by feeble health within narrow limits, I can only offer a few suggestions, without stopping to illustrate my meaning by examples, to prove the correctness of my views by facts and arguments, or to trace my principles to their various practical results.

1. The human mind is formed for activity. It is so constituted that the voluntary exercise of its various faculties on appropriate objects is a source of pleasure. But there are several ways in which the mind, especially of a child, may become fatigued, or wearied, or disgusted. Mental exertion may be too long continued. The mind may be too long confined to a single object. Exercise may be afforded to only one of the faculties, the memory for instance, while the other faculties, more important in their nature, and more interesting to the possessor, are suffered to lie dormant. The mind may be compelled, or reluctantly urged, to direct its attention to a specified object, at a moment when it happens to have a strong preference for some other employment; or it may be required to attend to something, to which it has imbibed an aversion in consequence of injudicious treatment or unfortunate associations of ideas. The pleasure naturally arising from intellectual effort may also be destroyed by keeping the body too long confined to the same posture. The intimate connexion and mutual influence of body and mind are well known. The body is formed for activity as well as the mind. If, for want of exercise, or from a confined posture, the blood does not circulate freely and all the vital functions go on briskly, the intellectual operations will be impeded. When the bones begin to ache,

or the blood to stagnate, the mind becomes dull, and that which otherwise would be very interesting, now loses its power to charm. Let, then, the parent or teacher carefully guard against all these counteracting influences, and he will find that the pupil will voluntarily, and with pleasure, exercise his mental faculties and his bodily senses on such subjects and such objects as are suited to his age and capacity.

But what are the subjects, and what are the objects, to which the attention of the mind should be invited? In the case of children we may infer the design of nature, and may learn what is best suited to their capacity, by observing to what they, of their own accord, chiefly direct their attention and curiosity. It is to the colours, forms, and other sensible properties, together with the names and uses of material objects. Now, it is the part of a wise teacher to follow nature; to make the inquisitiveness of children the means of their improvement; and to gratify, encourage, and guide their curiosity, by giving them information, and assisting them to distinguish and describe the colours, forms, uses, &c., of the objects around them. Here is a wide field for inquiry and instruction. The various works of art, and the multiform productions of nature, animal, vegetable, and mineral, lie open to inspection. But even here a selection must be made, and only those facts and operations must be presented to the mind which it is capable of comprehending. And caution must be used, not to present too many new objects and new ideas in rapid succession. This distracts the mind, produces confusion of thought; precludes a careful observation of the properties, the differences, and resemblances of individual objects; and of course prevents anything valuable from

being treasured up in the memory. In such circumstances, the mind makes a desperate effort to grasp everything, and fails to secure anything. The disappointment is painful, and disgust and aversion are liable to ensue. The same caution is necessary in teaching children or beginners any branch of learning whatever. An aversion to being taught is frequently imbibed while learning the alphabet. But this probably arises, in most instances, from the circumstance, that so many new characters, of various forms, are presented to the eye in such rapid succession, that the child, finding it impossible to distinguish and remember them, gives over the attempt in despair, and becomes listless, inattentive, and averse to the task. If the letters were presented one at a time, and each rendered familiar before a new one was introduced, they would be learned with ease and with pleasure. Geometrical lines, surfaces, and solids, are, however, better adapted to the faculties of a young child, as being in their forms more regular, and less complicated, than the alphabetic characters.

I have dwelt chiefly on the kind of instruction suitable for children, because it requires more skill to teach them than to teach older students, and because, if a fondness for learning is imbibed in childhood, and correct intellectual habits are then formed, the grand point is gained; the future improvement of the pupil is almost secure; that fondness and those habits can seldom fail to remain, to stimulate and guide the researches of future years. That the intellectual and moral character is frequently determined by early impressions, is a remark, trite indeed, but so important, that it ought to be repeated, again and again, in the ears

of every parent and guardian, and teacher of the rising generation.

Have I digressed from my subject? I think not—at least not far. The result to which we come is, that a most powerful means of stimulating the student is, *to teach him in a judicious and skilful manner*. Do this, and avoid all counteracting influences, and he will *love to learn*. The exercise of the faculties, and the acquisition of new ideas, are both naturally sources of pleasure to the mind. This pleasure, once tasted, will be again desired. This desire, which gains strength by fruition, is a stimulus, pure in its nature, safe in its operation, salutary in its influence, and powerful in its effects.

But there are many teachers who do not afford their pupils a proper *opportunity* to exert their faculties. Instead of setting their pupils to *thinking* and *investigating*, they, as far as possible, do all the thinking for them; thus making them almost entirely *passive* in the acquisition of ideas. The teacher who wishes to stimulate his pupils to the highest degree of exertion should guard against this course. He should never do for his pupils what they can do for themselves. He should never tell them a thing which they can find out for themselves. And when they must be assisted, he should afford them only so much assistance that they can do the *rest* themselves. In a word, he should, as far as possible, in all the branches, pursue that *inductive method* which, we hope, will effect a greater advance in the intellectual improvement of the rising generation than can be effected by any other cause.

2. In connexion with the preceding remarks, we would recommend to aim at variety and novelty in the objects which are presented to the attention of the

student. This is peculiarly necessary in the case of children. One great reason why they soon become weary with reading or committing words and sentences which they do not understand, is, that the charm of novelty is wanting. No food being afforded to the mind, the lesson consists merely of a succession of unmeaning sounds, which fall with dull monotonous sameness on the ear. It is in general advisable that a student should attend to different branches of study at different hours of the day. When he begins to be weary with application to a single branch of learning, to exchange it for another serves as a relaxation to the mind, and may frequently answer that purpose as well as modes of relaxation of a less profitable nature. Caution must be used, however, as already suggested, against dissipating the mind by directing it to too great a variety of objects in a day. And it may be added, that seldom, if ever, should two studies, that are entirely new, be commenced at the same time. But not a day, and, if possible, not a lesson should be suffered to pass, without the acquisition of some ideas, which the learner feels to be new. Too often, indeed, the learner is taught in such a way that he cannot distinguish new ideas from old ones; and too many teachers never think of enabling their pupils to make the distinction.

3. A student is stimulated to exertion by guarding against a wandering mind, and keeping the attention directed to the proper object. In order that this may be the case during the time of recitation, the questions should be so managed, that individuals cannot answer unless their attention be unremitted. This may be done, partly by expressing questions in such language that they cannot be understood without having attended to

the previous questions and answers; partly when one pupil has failed to answer a question, or has answered it wrong, by calling on another to answer *without repeating the question;* partly, by analyzing the ideas, and making each question and answer as short as possible, so as to pass rapidly round the class; partly, when one pupil has committed an error in some part of his answer or performance, by calling on another to specify the error, and to show why it is an error; and partly, by calling on individuals to answer questions, or to correct one another's errors, not in the order in which they stand or sit, but promiscuously. And minute as the circumstance may appear, the teacher will find it useful, in many cases, to announce a question previously to calling the individual by name who is desired to answer it. The putting of questions promiscuously, and refusing to repeat a question which has been once distinctly announced, may be made a powerful means of keeping alive the attention of a whole class, or even of a whole school, during an exercise which concerns the whole. It frequently happens, that when one individual of a class is performing his part of an exercise, the others, or some of them, instead of listening to his performance, are studying that question or that part of the task which seems likely to come to them. Some effectual means must be taken to defeat all calculations of this kind, as it is of the highest importance that every individual in a class should listen attentively to the performance of every other individual.

4. And in order to stimulate them to exertion in preparing for recitation, no one should be able to calculate what part of the exercise he shall be called on to perform.

Some teachers always, at a recitation, begin at one end of the class; so that those who stand at that end know to a certainty that the first part of the lesson will come to them, and those who do not stand there are almost equally certain that it will not come to them. I have even seen a class of little fellows, when paraded in due order on the floor, begin and spell each his word in rotation, and run through a column of the Spelling Book in rapid and unbroken succession, without needing the voice of the teacher, or even giving him an opportunity to speak. If one of the band had happened to be *absent*, I suppose *his word* must have been omitted.

5. The inducement to study lessons thoroughly will be much increased, if each scholar is allowed to *try but once* in spelling a word or answering a question. It is, I fear, a general practice to try twice, when the first attempt proves to be an error; and some hasty spirits will try three or four times almost in a breath, before the teacher has opportunity to put the question to another, or to advise them to pause and consider what they are saying. This habit of *guessing* is truly a lamentable one. "Think before you speak," is a maxim worthy to be frequently inculcated in school. To a pupil who manifests a propensity to disregard this maxim the teacher might say, "When I ask you a question, you either know how to answer it, or you do not. If you know, you can, by proper care, answer correctly the first time. If you do not know, then be honest enough to say so, and let some one tell that does know; for the art of guessing is a branch which I do not teach." To limit each pupil strictly to a single answer, except in special cases, not only affords a stimulus to exertion

but induces a habit of consideration, caution, and correctness in speaking, which is of inestimable value.

6. In all cases where it is practicable, it is best that questions should be asked in the language of the instructor, and answered in that of the pupil, instead of using printed questions, and giving answers verbatim as they have been marked with a pencil. If the pupil does not know precisely what questions will be asked, or in what form they will be put, and finds it necessary to answer more by an exercise of understanding than by an act of memory, he will exert himself to understand the subject; and by so doing he will acquire more knowledge, will cultivate his mental faculties in a higher degree, and will become far more deeply interested in his studies, than by pursuing a different course.

7. The various means of stimulating a student which have been brought into view are chiefly included in the general idea of a skilful method of teaching. I shall now briefly advert to a few, which are of a somewhat different nature. One of these is derived from the power of *sympathy*. There is, in the human breast, a propensity to feel the same emotions which we see manifested by another on whom our attention is fixed. Hence, if a child perceives that those who are around him, especially his teacher and parents, take a pleasure in knowing those things which he is learning, his own desire to know them, and his pleasure in learning them, will be greatly increased. This is probably the principal reason, that where we find in parents a taste for reading and literary pursuits, we usually find the same in their children. But when a child knows that his parents and teacher consider learning as an irksome task, and expect him to consider it so, his heart

is closed against the sweet influences of knowledge, and he imbibes an antipathy to the very sight or name of a book.

8. Another means of stimulating the student is the pleasure of meeting the approbation of his teacher, parents, and friends. What pleasure more exquisite than that of knowing that we give pleasure to others? What sweeter bliss than that of being beloved by those whom we love? Such is the pleasure which the child enjoys when he sees the approving smile of his parent or teacher. When he gives an account of what he has learned, or answers questions relative to it, to hear his teacher say, "You have got your lesson well;" or, "I am glad that you understand this lesson so well," is a reward which would compensate him for hours of toil, even if the getting of the lesson had been in itself a hard and painful task. How unfit, then, for their office are those teachers who listen to the recitations of their pupils with cold indifference, and seldom manifest a lively pleasure in witnessing their improvement! But here much caution must be used, lest a spirit of rivalry should be excited, attended with vanity and pride on the one hand, and with envy and hatred, ill-humour and despondency, on the other. Where several are associated in the same study, it will happen that some will get their lessons much better than others who are equally studious. In such cases, there is much danger of wounding the feelings of the latter by the bestowment of praise on the former. Where it is possible, it is much the best way to praise a whole class at a time. Where this cannot be done, let commendation be sparingly and cautiously bestowed on those who have distinguished themselves, and let every appearance of

harshness, censure, or impatience be avoided in regard to those whose efforts have been less successful. And whenever these latter individuals happen to get a lesson better than usual, tell them so, and let them see that you feel a double pleasure in their improvement. Where scholars are indolent, or negligent, or do not try to learn, it is proper to let them know how much pain their conduct gives you; and perhaps sometimes a gentle reprimand for their waste of time and misimprovement of privileges may be expedient; but any degree of harshness, anything like scolding, driving, or compulsion, so far from making them love learning, will only serve to increase their aversion to it. Whether corporal punishment should ever be used in a school, to deter from the commission of crimes, is a question which it does not belong to me to decide or discuss; but sure I am, that the rod and the ferule are the worst means that ever were devised to get knowledge into the head, or the love of it into the heart.

9. Another means of stimulating the student is to *associate* as many *pleasing ideas* as possible with the thought of his lesson, his book, his school, and his teacher. The expectation of being approved and commended is indeed included in this head; but there are many *other* pleasing associations, by whose aid flowers may be strewed in the path of learning. A child should always hear an opportunity to learn spoken of as a privilege; a school, as a pleasant place; and an instructor, as a friend. Let this be done, and let every school be made indeed a pleasant place, and every instructor show himself a cordial friend to his pupils, and children would soon love their school as well as they do their play. A teacher of a common school should be a person of an

affectionate disposition; one who loves children, and whose patience and kindness are never exhausted by their ignorance, dulness, and numerous little faults. Yet all the efforts of the most affectionate, skilful, and indefatigable teacher may avail little, where they are counteracted by parents and others out of school, who view the subject in a wrong light, and are daily enstamping their false views on the minds of children.

10. Another means of stimulating the student is to point out to him the connexion between a good education and his future comfort and happiness. On pupils who are old enough to be capable of understanding this connexion, the consideration may be made to bear with great weight. It does not require much discernment or reflection to see, that a cultivated and well-furnished mind is not only a great help in managing one's pecuniary and temporal affairs so as to secure a comfortable subsistence, but adds greatly to a man's respectability and influence as a member of the community.

11. I shall name but one more means of stimulating the student to exertion; and that is, a *sense of duty and of future accountability*. Let the pupil be made to feel that he owes duties to himself, to his fellow-men, and to his Maker, which he can discharge only by diligence and assiduity in the acquisition of useful knowledge. Let him be made to feel that if he neglects to do all in his power to promote in the highest degree his own happiness and the happiness of all to whom his influence may extend, he does *wrong*, and must suffer the reproaches of an accusing conscience, and incur the disapprobation of Him who "is greater than the heart and knoweth all things." Let him never forget that time is short; that he has much to do; and that, of the manner

in which these fleeting moments are spent a review must hereafter take place and an account be rendered. Let him hence be made to feel that time is precious; that his privileges are precious; and that he has no *right* to waste the one or neglect the other.

LECTURE ON THE ADVANTAGES AND DEFECTS OF THE MONITORIAL SYSTEM, WITH SOME SUGGESTIONS, SHOWING IN WHAT PARTICULARS IT MAY BE SAFELY ADOPTED INTO OUR SCHOOLS.

BY HENRY K. OLIVER,
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[Delivered before the American Institute of Instruction, August, 1830.]

'Δος που στω και την γην κινησω.'

'GIVE me a place whereon I may stand, and I will raise the world,' said the mighty prince of ancient mathematicians, as the great truths of mechanical science flashed across his mind. In later days, and from a land where learning once held imperial sway, though now, over her widely extended plains ignorance and barbarism are brooding in deepest intellectual midnight, there has been heard a voice, bearing to us, my friends, who are actively engaged in the great business of education, and to all who feel a proper interest in its promotion, sounds of the deepest import. 'Give me a handful of pupils to-day, and I will give you as many teachers to-morrow as you want.' This was a saying very frequently used by the celebrated Dr. Bell, the well-known founder of the Madras, or Monitorial System of Instruction. The verification of an assertion like this would evince in him who should so make it good the possession of even greater power than Archimedes

would have displayed had he found a place whence he might have shaken the world from her deep and strongly laid foundations. For he who should with such rapidity create the means whereby to accomplish so noble an end, would possess himself of a host of intellectual levers (if I may be allowed the use of such an expression), which should exert an influence to move the world which not all the strivings of folly and of prejudice would be able to withstand. The cry that 'the schoolmaster is abroad' would have been uttered long before it fell from the lips of Brougham, and the wide plains which the siroc blast of ignorance had scorched and withered into a wilderness and a desert place would have blossomed like the rose, and been strewed with the rich and life-giving fruits of the tree of heaven-born science. But unfortunately for so fair a speculation, and 'a consummation so devoutly to be wished,' we fear that the inefficiency of the means and the feebleness of the levers will render many of the efforts to mov the world of ignorance almost, if not entirely, futile.

It has fallen to my lot, my respected friends, to address you upon 'the advantages and defects of the monitorial system of instruction,' and to endeavour to show how far it may be safely adopted into our schools.

I shall take up the subject in the order here laid down, and shall give you the results of my own observation and study, referring you neither to individuals nor to books, for corroboration of any assertions which may be made. I am induced to take this course, because I have thought, that when a subject like the present is proposed, in the particular manner which the phraseology of ours seems to indicate, it is as frequently expected that the writer should advance his own opinions, as tha

he should collate and publish those of other people. There is this advantage attendant upon the former course of procedure, that the opinions advanced will be received as the opinions of a single individual, and so far only entitled to consideration; while, if the latter be pursued, the magic of great names and of high-sounding authorities may be apt to exert a controlling influence, and sometimes even an illimitable sway over many minds, and to compel them to yield that assent, and perhaps that entire submission, which they would never concede to individual assertion. The latter course may restrain, and even effectually check, our own freedom of opinion, while the former leaves it to act unbound and unembarrassed. Permit me to importune your candid hearing and judgment, and allow me to express my regrets that the subject has not fallen to the disposal of abler and more experienced hands.

The advantages which the monitorial system of instruction possesses over the ordinary method are the following:—

1. It provides, by the same means, and within the same amount of time, for the tuition of a ar eater number of pupils.

2. In consequence of such a provision, there results a very considerable economy of time.

3. In a school where this system is adopted, every individual is kept in constant employment.

4. A fourth advantage, and one resulting from the preceding, is, that by this method the disrelish and irksomeness on the part of scholars to school employments are lessened in no inconsiderable measure.

5. The monitorial system of instruction removes from the teacher much of the wearisome tediousness conse-

quent upon long-continued efforts in teaching the ordinary and more mechanical branches of learning, and enables him to introduce his pupils, or at least some portion of them, to more advanced and important studies than he would be able to do if his attention and services were constantly required for the instruction of each individual pupil.

These five points, it is believed, are the principal ones upon which the advocates for the system of mutual instruction found their claims for the preference. Some of them are of the greatest importance, and are fairly entitled to the highest consideration.

We shall proceed to speak of each of them more particularly.

1. The monitorial system, by the same means, and within the same amount of time, provides for the tuition of a far greater number of pupils than are taught by the ordinary method.

It has been found that by the use of monitors, or assistant teachers in miniature, one principal instructor may conduct the studies of two hundred and fifty or three hundred boys, thus performing the duties of at least five teachers. In many places, particularly in crowded cities and in extensive manufacturing districts, such an advantage is of incalculable importance. The amount of time usually allotted to children in such situations for obtaining some acquaintance with the simpler elements of knowledge is extremely limited, and this small portion ought to be most constantly occupied and sedulously improved. In such cases, the system under consideration, as it affords the means of obtaining the greater amount of instruction in the smaller portion of time, though that instruction is, from the nature of the

case, quite superficial, possesses unquestionable claims for the preference. This application of the system, and this alone, it is believed, was that contemplated by the originator or originators of it. At any rate, it is certainly the case that it was originally applied to the children of the lower classes in crowded cities for the laudable purpose of affording them what they had never before been blessed with, some small portion of instruction; which instruction, from the peculiar exigency of the case, was necessarily imparted with a prudent economy both of time and of money. Where but little instruction, therefore, can be communicated, and that little, sparing as it is, must be given in an extremely limited portion of time, we know of no better method of procedure than that of adopting the system under consideration.

2. The method of mutual instruction insures no inconsiderable economy of time.

In a school of one hundred and fifty members, taught by the customary method, the actual amount of time during which each scholar is entitled to the personal attention of his teacher, is precisely two minutes and two-fifths. Were there two instructors, he would be entitled to the double of this portion. Now let us suppose the school to be conducted on the monitorial system, and that there is employed one instructor, who has under him two divisions of monitors, each consisting of twenty persons. We will suppose the instructor to be constantly occupied with these two divisions in alternate order, and that the division not under immediate instruction is employed in the tuition of subdivisions of pupils. The twenty individuals around the teacher will receive, in the course of the customary six hours of daily

school-time, eighteen minutes of personal instruction, and the members of the subdivisions under the care of monitors will receive (being reduced in numbers, by the deduction of the monitors, to one hundred and ten), sixty-five minutes and a half of monitorial teaching, equivalent perhaps, in point of value, to the eighteen minutes of teaching given by the presiding monitor, the master, to his division. On this supposition, which will show fairly enough the usual routine of a monitorial school, each scholar receives nine times as much instruction as he would do in an ordinary case. Nor are the monitors, when actually employed in teaching, losing or wasting time; for we are undoubtedly all well aware that there is no better method of learning and securing the knowledge of any particular branch of study, than, after acquiring some little acquaintance with it, to be diligently engaged in teaching it. So that it has been rightly said, that the best way to learn is to teach. It is a most lamentable fact, that in all our common schools there is (not because of any fault of the teacher, but from the very defects of the common school system) a most profuse and shameful waste of time. This lavishness of the best and most precious of Heaven's gifts, and doubly precious to the growing mind, exists mostly in that part of the scholars who are at their desks apart from the teacher, and who ought to be employed in preparing an assigned exercise for recitation. Yet they, from that unfortunate peculiarity of human nature which tempts us to prefer ease to labour, suffer themselves to be employed only so long as will suffice for the preparation of, in most instances, a defective and miserable recitation. There they sit, as even the most unobserving spectator of our ordinary schools cannot but notice,

wasting the priceless energies of mind and of body, and acquiring habits of inattention and of idleness, the most miserable influence of which not the lapse of years nor the utmost labour of maturer days can ever wholly eradicate. To so unfortunate a profuseness of time we contend that any employment, even the most unsatisfactory, is preferable. Let it not be said that we require too much of the young, that we would keep them too constantly employed, that we would unwisely strain their youthful powers in the accomplishment of impossibilities. The time apportioned to school exercises is sparing enough; and the residue of the day, and the frequent recurrence of vacations and of holidays, give them the most ample opportunities for relaxation. But it may be said—'*Arcum nec semper tendit Apollo.*' True. But he never unbent it when in the fury of the chase. He never relaxed the keenness of his aim till the prey was prostrate at his feet.

3. A third advantage is, that in a school where this system is adopted every individual is kept in constant employment.

No one, as we have already observed, who is even but partially acquainted with the state of our schools under the ordinary management, can avoid observing how very great a portion of the customary school hours is wasted in absolute idleness. Let us suppose an instance of a teacher having the supervision and instruction of a school of forty members, who are divided into four classes. These four classes, we will suppose, are to recite in regular rotation, commencing with the lowest. While this class is employed with the teacher, the other three classes are, or ought to be, engaged in the preparation of a lesson. Now it is usually the case that the

lessons assigned to lads do not, or, from their fault, will not, occupy them more than three-quarters of an hour, or, at the most, an entire hour. The class reciting will perhaps occupy about the same amount of time; and when the teacher shall have finished with them, there are the three other classes, each and all prepared to recite at the same time. Now but a single one can be attended to, and the other two must and do sit absolutely unoccupied. Nay, so far as the discipline of the school and their own benefit is concerned, they are worse than idle, since they will be sure to resort to some mischievous expedients to kill the monster Time, till their turn for recitation comes round. But where the monitorial system, or something equivalent or better is adopted, no such difficulties can occur, because, as it in truth always ought to be the case, recitation occupies more of school time than study. We have supposed what we believe to be a favourable instance in the selection of a school of forty members. And if so much time be there worse than wasted, what shall we say of one which contains from one hundred and fifty to two hundred scholars? These last numbers give the usual amount committed to the charge of a single teacher in all our large towns; and we hazard nothing in making the assertion, that of this large number one half are unemployed, so far as the acquisition of knowledge is concerned, more than one half of their time. Nay, even in the very best regulated schools, where but a single master is employed in the instruction of any considerable number of pupils, and without any assistance from them, this evil exists in a most alarming measure.

We conceive this difficulty to be the grand and most discouraging obstacle to the advancement of our com-

mon schools. We believe that they will never awake from the sluggishness under which so many of them lie buried, until this palsying incubus, which broods over and withers their best energies, be shaken from them. We believe that they will never take and maintain that rank which their numberless friends most earnestly desire them to do, until the constant employment of every individual, and the unsparing occupation of every moment of time, be universally prevalent. In our opinion, this feature of the monitorial system is above all praise; and the sooner it is found to exist in some shape or other in every school in the country, the sooner will their best interests be promoted. What teacher is there among us all who has not felt a glow of satisfaction and even of delight, when, on surveying his little kingdom, he has found every individual sedulously and profitably and constantly employed? Who is there among us all who does not esteem such moments among the very proudest of his professional career?

There is another point gained by the use of monitors, which we mention here because connected with the subject of frequent recitation. There can scarcely be found a parent who is not only willing, but even desirous, that his children should have some employment connected with school-exercises out of the ordinary limits of school-hours. This is particularly the case in the winter season, when the days are short, and school-time is contracted into the narrow bounds of five hours, and the evenings are of protracted length, and, on the part of children, mostly unoccupied. Lessons prepared out of school can, where the monitorial system is adopted, be recited as soon as school commences, and can *all* be recited, and simultaneously, and the whole work may

be accomplished in less than an hour. But where the old method prevails, the more lessons there are learned the worse it is for the learner, so far as recitation, which is the very life-blood and soul of school-time, is concerned.

4. The fourth advantage which we would mention, although they all seem to be so intimately connected that they might be easily enumerated under a single division, is, that the influence of this constant employment fairly and effectually removes the disrelish and irksomeness on the part of scholars and of teachers attendant upon the ordinary method of instruction.

We all know that when we are constantly and busily employed, time flies as upon noiseless and unheeded wings. There is no instructor from whom the fleeting hours do not pass away too rapidly; and many a one is there, if his school be exclusively conducted on the ordinary system, who has many a time found that his narrow portion of time is all elapsed, and his work is but half done. How readily and how heartily might such an one exclaim, were his dactyls handy,

> "Hei mihi! nunc quid agam? Nimium celeri pede fugit
> Hora———"

Now, by this constant employment, which is a characteristic feature of the system of mutual instruction, the same effects are produced in the removal of fatigue and irksomeness from the bodies and minds of scholars. And it is from them that we should be particularly anxious to remove every feeling and every impression that may be, in the least degree, unfavorable to the employments of the school-room. Make that a spot to which they will delight to resort; make it, in deed and

in truth, a '*ludus literarius*,' and you will remove the chief obstacles in the way of your success as an instructor.

5. The fifth and last point which we shall mention, in which the monitorial system has an advantage, is, that it exempts the teacher from much of the wearisome tediousness consequent upon long-continued efforts in teaching the ordinary and more mechanical branches of learning, and enables him to introduce his pupils, or, at least, some portion of them, to more advanced and important studies than he would be able to do, if his attention and services were constantly needed for the instruction of each individual scholar.

The zealous and the ambitious instructor, the man who is in love with the profession, for of such a man alone can success be predicated, will never rest satisfied that his school is as good as his neighbour's; that he teaches well, and that his pupils learn well, certain assigned, and therefore expected, branches of study; or, in other words, that it does not move in a retrograde direction, or that it is merely stationary. Περι τυ Θεμιστοκλεους λεγεται, ως καθευδειν αυτον ουκ εων το τυ Μιλτιαδυ τροπαιον.' . . . 'Of Themistocles it is said, that the trophies of Miltiades would not let him sleep.' Now, will it not be the case with the ambitious in every vocation—will it not be the case with the ambitious teacher, that the laurels of his brethren of the same calling will excite in his bosom, not the evil canker-worm of envy, but a generous, an open, a manly spirit of emulation, whose well-disciplined efforts shall benefit himself, his profession, and the world? Will not his motto be 'Onward, and onward still?' Will he not be unwilling to move, all his life long, in one unvarying

beaten track, to perform for ever a stale, and, to himself, a profitless round of tedious duties, destitute alike of interest and of novelty? We believe that he will. We believe that the history of his school will be distinguished by those periods of time at which some farther progress has been made in an assigned course of study, or some new department of learning has been introduced. Now, how can so desirable an end be so effectually accomplished as when he can avail himself of the services of a great number of assistants? To accomplish it thoroughly and satisfactorily, his assistants ought, indeed, to be adult teachers, and of sufficient acquirements and experience. But since, in ordinary cases, the possession of such adult teachers is next to an impossibility, let him make the nearest practicable approximation he can to the benefits which their aid would secure, by making use of such helps as a selection from his best scholars will afford him; or, in other words, by adopting some feature of the method of mutual instruction.

We do not mean that the progress of his school, to which we have alluded, shall be made at the sacrifice of thorough instruction, or that his school shall *appear* merely to have got over a greater than ordinary amount of study; though, as we shall hereafter show, we apprehend these to be the rocks upon which every monitorial school, in the strict meaning of the name, will eventually be wrecked. But it is very evident that, by the employment of a greater number of teachers, a greater amount of time is called into service, and of course a greater amount of labour performed. The best and surest way, however, to attain to the proper performance of this labour, is to employ, as we have already

hinted, a greater number of adult and experienced teachers than is done in ordinary cases. But if this cannot be done (and that it cannot will always be true so long as the public are opposed to the disbursement of a larger amount than is paid, at the present moment, for the instruction of public schools, and teachers are found who are willing to work at the public's prices), if this cannot be done, we say, let the teacher make use of the best means and the best assistance within his reach; that is, let him train up the most intelligent and the farthest advanced portion of his pupils to the business of teaching.

We have now done with the consideration of the advantages resulting from the system of mutual instruction. We have stated them, we believe, fairly and candidly, and have stated all which are entitled to much praise. We now proceed to show its defects. These we shall endeavour to lay down in the order of their relative magnitude.

We object to the monitorial system,

1. Because no school can be conducted upon it separably from great noise and confusion.

2. Because it is next to an impossibility to procure monitors who will prove, in every particular, faithful and adequate to the duties expected of them.

3. Because in a school conducted upon this system the principal instructor cannot be sufficiently well acquainted with the particular merits and failings of each individual pupil.

4. Because we believe its legitimate tendency is to make anything but thorough scholars, and to introduce into all, excepting the more mechanical parts of knowledge, a degree of superficialness and inaccuracy highly prejudicial to the best interests of sound learning.

Of these we proceed to speak also more at large.

1. And, in the first place, we object to the monitorial system, because we believe no school can be conducted upon it separably from noise and confusion.

No one who has ever visited a monitorial school can be otherwise than aware that this objection is founded upon what is strictly true. From the very nature of the case, noise and confusion, and those of no ordinary palpability, are absolutely inherent in the system. They were born with it, and have 'grown with its growth, and have strengthened with its strength.' In all monitorial schools a very large portion of the scholars, and sometimes all of them, are called into simultaneous recitation. This cannot occasion anything else than a confused uproar of exclamation, and a motley medley of vociferations. From the immediate contiguity in which many, and, in fact, we may say all the reciting classes are placed, and from the circumstance that usually all of them are performing their exercises within the limits of a single room, it cannot but follow that one set of reciters should continually interrupt and confuse those in their immediate proximity, particularly if they are reciting a different lesson. And so far as the interest of the learner is concerned, it is, in some particular cases, even worse, if the adjacent divisions are reciting the same lesson. For then, if there happen to be a dull scholar in No. 1, he has only to listen to and repeat the words of his comrade in the neighbouring No. 2, who has been blessed with a better head, and has acquired closer habits of application than himself. To this doffing the dunce and donning the wise one, to this literary smuggling, we have more than once been the amused witness. Again, if one half of the mem-

bers of the school are reciting, and the other half are endeavouring to study, how can it be that the noise and din of the reciters should have any other effect than to render the attempts of those who are required to be employed in study really and truly nothing but attempts, and those attempts the most abortive and futile? Who can apply himself undistractedly to study with confusion and noise echoing around his head? What scholar can comprehend the meaning of a difficult passage in a classic writer, or investigate successfully a complicated and slippery formula in the mathematics, when one-half of the little world of his fellow pupils are vociferating their lessons at the very top of their vocal powers? *Aurora musis amica*, and not more so from her freshness and beauty than from the calming influence and soothing nature of her noiseless hours.

2. Our second objection to this system is, that it is next to an impossibility to procure monitors who will prove, in every particular, faithful and adequate to the duties expected of them.

To instruct in any given branch of knowledge thoroughly and successfully, requires something more than even the greatest familiarity with the particular text-book which may have been adopted for that branch. If this were not the case, there would be no necessity that the individual whose design it may have become to qualify himself for the business of instruction, should go into an extensive and laborious course of reading and of study. He would be necessitated merely to drill himself to perfection in a certain set of books, and to have at convenient readiness a certain set of questions appended and chained down to a certain set of answers, and he would be armed and equipped for the peda-

gogical warfare. Now we maintain that this will not answer. We maintain that every teacher, to perform his duties faithfully and successfully, should be a person of studious habits, of extensive reading, and of very considerable acquisitions in every branch of learning which has any relation to the particular course of study adapted for the school into which it may be his fortune to be thrown. We do not mean that a man to teach arithmetic successfully should be extensively learned in the Latin and the Greek languages; or that he whose province it may be to teach history or geography, should be profoundly versed in mathematical learning. But, in the former case, he will be far more likely to be successful, and certainly he will perform his labours with more satisfaction to himself, if he possess a good knowledge of the ordinary branches of the mathematics; and, in the latter case, it is indispensable that he be familiar with the general history of the world, and even more than familiar with the particular history of individual countries. Now, that a mere child, or a mere school-boy (for they are the monitors) should possess this knowledge is by no means to be expected; and that they should perform the duties of teaching these branches of study with a desired success is as little to be expected. We are willing, indeed, to make some exception with regard to teaching, or rather superintending, the performance of the merely mechanical parts of arithmetical or other science. But in the other instance adduced we cannot see how any exception can be made. How many subjects, but cursorily or darkly hinted at in our little compends of history, can the well-informed teacher fully and satisfactorily elucidate! How much interest can he call forth from his youthful auditory, by

entering at large into the narration of some important and interesting subject, which the limited nature of the text-book has allowed to be but incidentally mentioned! How much light will a good knowledge of mathematics enable him to throw upon many of the rules and investigations of common arithmetic! For there are, as we all know, very many problems given for solution in our ordinary arithmetical treatises, which can only be demonstrated and understood by a reference to some principles of algebra or of geometry. Now, can we expect all these elucidations, desirable as they are, from the mouth of a common monitor to his fellow pupils? Most assuredly not; for so far as monitorial recitation goes, it is solely and purely mechanical, and altogether restricted to the prescribed text-book, or to an answer printed down in the books, and numbered to accord with a certain question. We know that the difficulty is still greater in those schools in which instruction in the ancient and modern languages is given by monitors. To make a young person familiar with the principles and the pronunciation of a language, even of his own, requires a long continued and persevering course of instruction. Of the Greek, Latin, and French languages this is particularly true. To pronounce either of the former correctly requires a perfect familiarity with the quantity of every word in the language, and this familiarity is not acquired in one, two, or even three years. Of the difficulties in acquiring a correct pronunciation of the latter we are all aware, and we are all as well aware of the great difficulty of acquiring the language from any other mouth than from that of a native teacher. How then can a common school monitor impart satisfactory instruction in these two in-

stances? We have been witnesses to the vain attempt. We have heard reiterated errors in the pronunciation of both the former languages pass entirely unheeded and uncorrected by the presiding monitor. We will not distract your ears by repeating what these errors were. Let it suffice merely to say, that they were terrific enough to make the bones of Porson rattle beneath the incumbent ground, and to frighten the manes of Bentley into annihilation. We do not think that any blame can, in the instance to which we allude, attach itself to the monitor himself. For his sin was the sin of ignorance. He was but little better informed upon the subject than the individuals over whose recitation he was presiding. He had, indeed, received instruction in advance of his division, and instruction of a very good quality; but it is useless to expect faultlessness and a perfect readiness in every particular, on the part of persons of so little experience as lads at school must necessarily possess. It may be said that the head-master himself was injudicious in his selection. In reply to this we would say, that we believe that the best selection was made which the nature of the case permitted. The fault was neither in the teacher nor in the monitor, but was then, and is now, absolutely inherent in the system itself. For that system directs us to place reliance upon those resources from which it is perfectly impossible that good and sufficient support should be obtained. Years of study, and the most extensive reading, and the most perfect familiarity with any language, ancient or modern, are, in our opinion necessary, nay, indispensable, if a man would teach it thoroughly and satisfactorily.

3. Our third objection is founded upon a belief that in

a school conducted upon the monitorial system, the principal instructor cannot be sufficiently well acquainted with the particular merits and failings of each individual pupil.

This acquaintance we esteem to be of the very highest importance. He is not at home in his school-room, nor does he know the materials with which he is to labour, who is not perfectly familiar with the disposition, talents, and acquirements of every individual in it. He must be unable to designate the good and the bad, the industrious and the indolent, the gentle and the stubborn, the incorrigible and the yielding. He cannot praise and promote the one, and judiciously punish or degrade the other, because he does not sufficiently know them. The power to understand and to discriminate should be in the teacher almost an innate capacity. He who is destitute of this capacity, or who neglects to cultivate and to improve it to the highest degree of excellence, is culpable in the extreme. And it is equally unfortunate for him, if the peculiar constitution and organization of his establishment put the means of acquiring this knowledge beyond his reach. Now that this is the case in monitorial schools we are fully persuaded. The great distance at which many of the pupils, not under the immediate supervision and instruction of the principal teacher, are necessarily kept, from the circumstance of their being disciplined and taught by the intervention of others, renders it impossible that the case should be otherwise.

4. Our fourth and final objection to this system is, that we believe its legitimate tendency is to make anything but thorough scholars, and to introduce into all, excepting the more mechanical departments of know-

ledge, a degree of superficialness and of inaccuracy highly prejudicial to the best interests of sound learning.

Were there no other objection to be brought against the monitorial system, as a whole,—let me be distinctly understood,—this alone would possess power enough to overthrow almost every argument which could be adduced in its favour. It is not our object here to enter into any disquisition upon the importance of a deep and thorough knowledge of whatever branch of learning we undertake to become acquainted with. The praises of sound learning have often and even recently been uttered in your ears, and we will not repeat the thrice-told though still delightful tale. In your own bosoms, if there live there, as we most sincerely hope there does, that richly merited veneration for profound and unyielding investigation, to whatever department of learning it may be directed, in your own bosoms these praises must have found a responsive voice.

"Drink deep, or taste not the Piërian spring," is a line of peerless merit, and fraught with the wisest counsel; counsel of more than ordinary value in these degenerated days of surface and of skimming, the prevailing genius of which is, we fear, becoming more and more averse to that uncompromising toil and patient labour, which can alone fast bind the bays and the laurels around the scholar's brow. We hold it to be self-evident, that no man is fairly entitled to the meed of sound classical scholarship, unless he be deeply versed in the grammatical principles of ancient language, unless he be extensively acquainted with the splendid productions of ancient learning, and unless he be almost a worshipper of every letter in every

name which beautifies the long list of the genius and intellect of classic days. Nor would we award to him the merit of mathematical skill who is not as familiar with every department of that heaven-born science as with the sounds of his native tongue. We expect not to find, in every age and in every land, the immortal names of a Porson and a Bentley, of a La Place and a Bowditch. No, the world has not worth enough to be blessed with them, and science hardly a depth beyond the reach of their researches. But when such giant intellects are found, let no diminution be made from their just praises. Let us not forget them, and fall into the miserable fashion of the day, of heaping indiscriminate laudings upon a mushroom growth of what are called profound scholars, yet whose claims and whose very appellation will prove as ephemeral as their own existence. Now, we ask, is it the influence of the system under consideration to bring forward scholars like those whose names we have adduced? Is it the influence of this system to foster, to encourage, or even to awaken their love for science, their unsatisfying thirst for the deepest waters of the fountains of learning? We believe it is not. We believe that it is directly the reverse. Is it to be expected, is it reasonable to hope, we do not say from the nature of *things*, but from the nature and habits of young people, that they will exert themselves to the utmost point of the requisite diligence and investigation, to possess themselves perfectly of a certain prescribed portion, suppose of some classic author, if they are assured in their own minds that this portion will not be required of them, and strictly required, by one, whose knowledge in the matter is infinitely superior to their own, and whose authority to require it is com-

mensurate with his knowledge? If studying the writings of the prince of epic poets, will they sedulously investigate the multiplied and endless changes in the form of his words? Will they, with critical acumen, learn thoroughly to distinguish the interminable variety of his dialects? Will they make themselves competent to point out the Attic and the Doric, or even the more common Ionic forms? We believe they will not. We believe they will reason (as even many older individuals would do, except when spurred on by some more than ordinary incitement) that they need not fret themselves, and labour, and toil, and *dig*, as they call it, to obtain all this familiarity with their author; because they are sure that he to whose share it will fall to examine them knows but little if any more about the matter than they themselves do. Is not such reasoning perfectly consonant with the principles of human nature? Do we not see its operations in the every-day business of our schools and of our lives? Here, then, is the great peril. Here then, in our belief, is the grand difficulty and defect in the whole system of monitorial instruction. It will make deficient, defective, and superficial scholars, an evil most sincerely to be deprecated as the canker-worm and destruction of all sound learning. Will all the strivings, will all the counsel, will even the very utmost authority of the principal teacher, prevent entirely so ruinous a result? We fear not. So great is the waywardness, so chainless and powerful the aversion to studious efforts in many, if not in most young people, that all his labour and his counsel will pass by them "like the idle wind." We are sensible that all scholars are not equally opposed to application. We are sensible that there are many of whose very nature labour

and sedulous application seem to be a constituent part; many who would labour and learn in the very worst school the imagination of man ever conceived of.

"Some trees will thrive, in spite of arid soil;
Some hold their stately form 'midst raging tempest's toil."

But not so of all. And even for the security and stability of the good principles and firmly-fixed habits of the most diligent scholars, we should have some fears, amidst the general recklessness and indolence which surround them.

We come now, at length, to the consideration of the last topic alluded to in the heading of our remarks, which is, "to show how far the system of Mutual Instruction may be safely adopted into our schools." We confess that we should prefer leaving the entire subject here, after having stated the advantages and defects of the system, permitting each one to form an opinion for himself. It is a point to be dealt with with the extremest wariness and prudence. That the prevailing system of school management has defects, and those, too, of the most palpable and mischievous nature, is an assertion as incontrovertible as truth itself. And it is equally undeniable that an entire, thorough, and radical change, of some kind or another, is loudly demanded. If the monitorial system will cure these defects, without introducing others equally glaring and mischievous; if it will place our schools upon the long and ardently desired footing of pre-eminence and of excellence, the sooner it is universally introduced the better. But, as we have seen, this system, as well as the ordinary one, has certain essential and inherent defects. As we have seen, also, it possesses some very eminent points of excellence. This being the case, it would seem as though

the voice of prudence would direct us to separate the chaff from the wheat; to adopt what is good, so far as the nature of our school system will permit, while at the same time we retain whatever is meritorious in the old, and to reject whatever is bad and therefore mischievous from them both. *In medio tutissimus ibis* is a motto of the soundest prudence, and as applicable to the case in discussion as to the numerous others to which it has been so frequently applied. The course, then, which we believe might be followed with entire safety, and even with absolute benefit, would be to adopt into all our schools those points in the monitorial system which, possessing in themselves universally acknowledged excellence, have at the same time the desired power of effectually remedying several of the greatest defects in our common system. That we may be more precisely understood, we proceed to be more particular. We have already stated, in the former part of these remarks, that there is a very great portion of time, in a school conducted upon the ordinary method, which is spent in the most unprofitable idleness. We have observed also that this failing was not consequent upon any fault of the teacher (for the faithful teacher is constantly employed), but because of the utter impossibility of his giving his attention to more than one set of scholars at a time. Now, in cases like this, and where the number of scholars is greater than can be kept in unremitted occupation by the solitary teacher, let him make use of what is infinitely preferable to a wasteful lavishness of time,—the monitorial system. Let him select some prominent individuals from a superior class, and appoint them to superintend some useful exercises to be carried forward simultaneously by a whole class. These exercises

should be such, however, as have been previously explained and taught by the presiding master, and of the correct conclusion of which there cannot a doubt arise. Let them be perhaps in arithmetic, in algebra, in written translations from Latin or Greek into English, or from English into Latin or Greek, when the monitors can have the assistance of printed keys. We have practised upon this method with great advantage both to pupils and to monitors. As the particular course pursued has sometimes been thought worthy of a passing inquiry, we will, by your permission, enter into an explanation.

Let there be provided a set of black boards, of such a number as the convenience of the school-room and the necessities of the school may require, each board being about forty inches by thirty. Let them be arranged in a convenient part of the room, at about three feet apart, standing contiguous to the wall, and at right angles with it, and parallel to each other. We have always made use of twenty-four. This number may be enlarged or diminished, to conform to the number of pupils who may be required to use them. When the pupils are stationed at them, each has a separate board, the size and position of which, together with the vigilance of the teacher or monitor, prevent his seeing the work upon the board next before him. To every three boards there is appointed a monitor of supervision, who is selected from among the best scholars in the class. Over the whole there is placed a presiding monitor, who is always selected from the highest class in the school, and who consequently has been through the whole course of instruction over which he is directed to preside.* At

* Whenever the occupations of the teacher of the school will permit, let him be the presiding monitor. He will find this method of teaching and reciting, particularly in the mathematics, the best that can be devised.

these boards are performed numerous exercises in translations; all exercises in arithmetic and algebra; all those in the practical parts of geometry and trigonometry; and many in the demonstrative parts of the latter sciences; each pupil being required to draw the figure, and to write out the demonstration. It is to be understood also that all these exercises are performed by the pupils entirely without the aid of their text-books, excepting in very extraordinary cases. They are of course never allowed to use them, nor even to carry them from their seats to the boards when about to recite demonstrations in geometry and trigonometry. In long and complicated questions in arithmetic and algebra they are sometimes favoured with them; but in ordinary cases the presiding monitor alone holds the book, and announces the question for solution. Each scholar then takes the data, as he hears them given out, and afterwards completes the operation. The monitors of supervision also are required to perform all questions upon slates held in their hands, and to exhibit them to the presiding monitor. They afterwards inspect the work of the three individuals committed to their charge, and report if right or wrong to the presiding monitor. It is the chief excellence of this application of the monitorial system, and this particular manner of using the black-board, that each and every question is performed by each and every scholar. And the circumstance of his being unprovided with a book from which to copy his formulas or to obtain his rules, and the fact that he cannot possibly get assistance from any other one than himself, render it certain that he must become, in some greater or less degree, familiar with the subjects to which his attention is directed.

There are very many useful purposes to which a set of black boards like these may be applied, all of which the circumstances of the school and the matured judgment of the experienced teacher will point out to him. He may also, with advantage to his pupils, adopt the monitorial system in cases of reviewing a lesson which has been already recited to himself in geography, spelling, and in the more simple and mechanical parts of knowledge, as has been already remarked.

But we do not feel willing to say to any, "Adopt the system of mutual instruction in full, since it is the very best that has been ever devised." For we should then be saying what we cannot bring ourselves to believe. What then is the course, or the system, which, as a whole, may be safely and advantageously introduced into our schools? We will briefly explain our views on this subject, and then bring our remarks to a close. In the first place, we believe that the most beneficial course which can be followed, is, that the number of scholars in our public schools should be lessened, or that the number of teachers should be increased. Of the two alternatives we should prefer the latter, and have come to the belief that a method somewhat similar to that recently adopted for the management of the Boston public schools would prove satisfactory and beneficial. That is to say, in the regular organization of a school we would give, as assistants to the principal teacher, one or two or more adults, and as many younger assistants as the exigencies of the school would require. These latter should be persons who had been regularly *through the whole course of instruction in the same school in which they were appointed to teach*, and under the tuition of the same teacher whose helps they were ap-

pointed to be. If we were to take our choice between half a dozen of such young teachers, and one or even two ushers, we should infinitely prefer the former, even at a greater expense. But that they may be obtained at a less is unquestionably true; and of their becoming very competent and skilful we have not the least doubt, particularly if kept in employ for three or four successive years. Such persons, by thus serving an apprenticeship at the business of instruction, in the positive necessity of which we have the fullest belief, would become infinitely better qualified for the profession than any of our young men, fresh and green from the embrace of Alma Mater. We would be understood as meaning that they should pursue a systematic course of instruction and of study, aside from their regular and daily service as teachers, and that these studies should be directed with a view to the particular situation in which they might be expected to teach. Such an experiment has been made, and has resulted in entire success; and we can see no reason why the method might not be adopted in every school in the country.

We had intended to say something upon the comparative efficacy of the system of mutual instruction when applied to our common schools, academies, and high schools, and when to our colleges; and to show, that, in our belief, less danger and difficulty are to be apprehended in the latter than in the former application of it. But we feel that we have already trespassed too far upon your time and patience. That some immediate and thorough reform, in these high seasons of reform, is loudly demanded for our common schools, we must all be persuaded. What method of reform shall prove at once the most expedient, the most expeditious, and

the most salutary, can, we are persuaded, be best determined by the united wisdom and experience of the assembled instructors of the country. The present is a most propitious opportunity for the discussion of the entire subject. That this may be but the commencement of a long-continued series of numerous, of useful, and of harmonious "gatherings of ourselves together" is our ardent wish; and that they may result in the rapid improvement of each and of every establishment in which we are engaged, and in the wide diffusion of the blessings of universal education, is our most fervent petition.

THE SEMINARY FOR SCHOOLMASTERS AT KÖNIGSBERG IN PRUSSIA.

By W. WITTICH.

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In No. XII. of the Journal of Education a general account has been given of the principles and views which directed the Prussian government in establishing and arranging the seminaries for teachers of the lower classes. We shall here show their application, by giving the particulars of one of these institutions; and for this purpose we have chosen the seminary established in the Orphanotrophy of Königsberg, in Eastern Prussia.

We have made choice of this institution for several reasons. First, it is not one of the largest, nor one of the smallest; the number of seminarists amounting last year to forty-three. Secondly, it occupies a conspicuous position in the history of public education in Prussia, being the place in which a number of successive experiments have been made, of which the present system of education is the result. Lastly, its internal arrangement is more complete than that of many other institutions of this description, a school being annexed to it in which those who intend to enter the seminary receive preparatory instruction. We shall therefore prefix a short historical notice of its foundation and progress.

The Orphanotrophy at Königsberg was founded by Frederick III., Duke of Prussia, the same day on which he declared his dukedom to be a kingdom, and caused himself to be crowned king, under the name of Frederick the First. This event took place on the 18th of January, 1701. According to the statutes of the foundation, twenty-four orphans were to receive an education in this institution. This number was in course of time increased to upwards of fifty, and then again reduced to thirty. The boys admitted were, according to the intention of the founder, not to receive exclusively a classical education; but as at that time the education of the middle and lower classes had been very little attended to, a middle course, something between mere spelling and a classical instruction, was hardly known. But the funds, which were provided by the founder, and increased by his successors, were abundantly sufficient for the maintenance of two classical teachers. Accordingly it happened that the original intention of the founder was soon departed from, and the whole system of instruction was modelled on that of a grammar-school. In this form it existed for more than a century, and attained a certain degree of repute, a considerable number of learned and useful men having received their education in it between 1701 and 1809.

In 1809, however, the institution underwent a total change. After the unsuccessful war with France, which was terminated by the peace of Tilsit, the Prussian government, intending to raise the energy of the nation by an internal impulse, began to direct their attention to the education of the lower classes. Pestalozzi had many years before begun his useful labours, and his fame was then at its height. The Prussian government

thought that their object would be best attained by transplanting his method of instructing the lower classes into the kingdom, and diffusing it through all the elementary schools. With this view one normal school was thought necessary, and perhaps sufficient; and among all the then existing institutions, the Orphanotrophy at Königsberg was selected as the most suitable for the establishment of such a normal school.

As the normal school then established in the Orphanotrophy was the first active step which government took for the improvement of the instruction of the lower classes, it may perhaps be interesting to know some particulars respecting its arrangement. According to the plan of the government, an indefinite number of boys were to receive their education here after the method of Pestalozzi; and those of them who showed talent and inclination for teaching others were to be employed as teachers, so that in this respect the institution might be considered as a seminary of teachers for the lower classes. But at the same time it was to serve as a means of perfecting the method of Pestalozzi, and of diffusing it through all the Prussian territories. For the latter purpose the rectors and vicars, who all through Prussia are charged with the direction and superintendence of the middling and elementary schools, were invited to attend the instruction given in the institution; and the head and director was to deliver lectures to them on the principles of the method of Pestalozzi, and on the subjects which were to be taught in the lower schools. Lastly, it was intended that the most able of the teachers who had been employed in this institution, and had made themselves thoroughly acquainted with

its methods, should establish similar institutions in the other provinces of the kingdom.

Mr. Zeller was charged with the execution of this extensive plan, who, from his enthusiasm, zeal, activity, and knowledge of the method of Pestalozzi, seemed to be perfectly qualified for the great task of reform; and undoubtedly he would have performed the task, had he possessed a sufficient knowledge of human nature. But his efforts not being directed by this most essential knowledge, his zeal and activity were rather detrimental to the cause which he had undertaken. He changed everything in the then existing forms of education: most of these changes were mere trifles; and some of them quite puerile. Some very important branches of instruction he abolished or entirely neglected, substituting for them others of little or no importance. Thus in the course of the first year it became evident that the expectations of government with respect to this institution were completely frustrated. The efforts of government for the improvement of the education of the lower classes would thus have proved entirely abortive, and perhaps this great object would have been abandoned in despair, but for one circumstance. The rectors and vicars, as well as the teachers of the upper schools, had been invited by government to attend the instruction of the normal school and the lectures of Mr. Zeller for a month, and accordingly 102 clergymen and 81 teachers had availed themselves of this offer. The minds of all these persons had been excited and roused by this opportunity, and without adhering strictly to what they had seen or heard, many of them, who were men of considerable talent and knowledge, used their own good

sense, and began to introduce changes into the schools under their direction, and to urge government to proceed in their plans. Thus it may be truly said, that out of this attempt, which in its immediate consequences proved a complete failure, the present improved state of education in Prussia took its rise.

As soon as the inefficiency of Zeller's exertions was fairly proved, the institution underwent another change, which brought it much nearer to the present arrangement of the seminaries. It was ordered that the pupils, whenever they showed talent and inclination for teaching, should be instructed in the institution up to their eighteenth year, and then sent to some of the most intelligent clergymen, who were to employ them as assistants in the elementary schools till they had completed their twentieth or twenty-first year, when they might become schoolmasters. But this plan was not long adhered to, as, in the mean time, attempts had been made to establish seminaries for schoolmasters in other places, and these attempts had been more successful. A way was thus pointed out, by following which it seemed probable that undertakings of this description would be attended with such results as government desired. Those institutions therefore in which unsuccessful attempts had been tried were by degrees reduced to the form of those which promised a fair success, and among these was the Orphanotrophy of Königsberg.

This seminary has the advantage, as already mentioned, of having connected with it a preparatory school.

It owes this advantage to its having been ingrafted on a charitable institution which previously existed ; for such a preparatory school is not considered as a necessary part of a seminary, and most seminaries in fact are not

supported by such an auxiliary institution. As far as we know, preparatory schools are only connected with two others of these institutions, the great seminary at Bunslau, in Silesia, and that at Yenkau, near Danzig; and in both places the preparatory schools owe their origin to the existence of charitable institutions for education before the erection of the seminaries. But though these preparatory schools seem by no means to enter necessarily into the plan of a seminary, they are considered decidedly advantageous for the instruction of teachers of the lower classes; and this conviction has given rise to the idea of connecting a preparatory school with every seminary in Prussia as soon as the requisite funds shall be provided.

The preparatory school is, properly speaking, the school of the ancient orphanotrophy. But it differs from it materially in not giving any longer to its pupil a classical education, but only that of a good middling school. The number of orphans amounts as formerly to about thirty, who receive in the institution board, lodging, and instruction gratis, just as it is ordained in the statutes of the foundation. Those who show talent, and manifest a decided inclination for the vocation of schoolmaster, are then prepared by a suitable instruction for the seminary. The subjects of instruction for these pupils do not differ from those taught to the other orphans; but some of the branches are taught with more particular care: such as arithmetic, calligraphy, geometry, the vernacular language, reading, history, geography, natural philosophy, and natural history. To this is added instruction in music; which is however of a practical kind, and affords the boys an exercise in playing the piano-forte and the violin. Besides this, the

elements of the Latin language are taught, because it frequently happens that the schoolmasters of the town-schools are required to give private lessons in that language, and this seminary is partly designed for educating teachers for the middling schools. It must of course be expected that, among thirty boys, the number of those who have talents and inclination for teaching cannot be large, and in fact the number last year did not amount to more than five. Government therefore has opened this school to other boys who are not orphans, and who show a disposition to become schoolmasters. These boys attend the school gratis, but are provided with board and lodging by their parents and relations. The number of such pupils amounted in 1834 to twenty-three. Before these boys are admitted to the preparatory school, they must submit to an examination, in which they have to prove that they have been completely instructed in the subjects taught in the elementary schools. They must show that they have acquired, 1, a legible hand; 2, a knowledge of the most simple rules of arithmetic, and a certain dexterity in applying them; 3, the elements of geometry, and that they are acquainted, 4, with the principal rules of orthography and orthoepy, and 5, with the catechism of Luther, and with the history of the principal events in the Bible. Lastly, it is required that they must have an ear for music and a voice for singing. Every year at Easter an examination for this purpose takes place; and those boys who prove that they possess the required qualifications are admitted into the school, and attend it till the completion of their sixteenth year, when they are sent to the seminary.

To be admitted into the seminary, it is not absolutely necessary that the students should have been in the preparatory school. A considerable number of those who attend the seminary have been previously instructed by other persons, frequently by clergymen; but all must submit to an examination before they receive permission to attend the instruction of the seminary. In this examination the candidates have to prove that,

1. They have acquired a more complete and more exact knowledge of the historical portions of the Bible.

2. That they can explain the more easy passages of the Bible.

3. That they begin to master their own language, which is to be proved by writing a composition on some easy subject; as, for instance, the true signification of a proverb, the description of some historical event, or of some natural phenomenon, &c. This exercise ought to be free from any orthographical mistake, and must not contain gross violations of grammatical rules.

4. That their handwriting is not only legible, but good.

5. That they have had some practice in singing from written music.

6. That they have studied an instruction-book of music, and know how to play the pieces from it on the piano-forte, as this degree of proficiency qualifies them to attend the instruction on the organ, and on the theory of music.

7. That they have acquired some knowledge of the organic kingdoms of nature, and are acquainted with the most remarkable plants and animals: a knowledge of mineralogy is not required.

8. That they are likewise acquainted with the principal facts of the history of their own country and of general geography.

9. That their knowledge of geometry is at least equal in extent to what is taught in the better kinds of elementary schools; that is to say, it must comprehend the elements of form, and the most simple properties of angles, triangles, &c.

10. That they are acquainted with fractions, and have also acquired some idea of the reasons on which this portion of arithmetic rests.

The seminarists remain three years in the institution at Königsberg, which is the time required in most of the Prussian seminaries of schoolmasters for the lower classes. Though there are still a few in which the whole course of instruction, together with the necessary practice in teaching, is included in the course of two years, it begins to be plain that this term is too short. When both complete instruction and the practice of teaching are to be acquired in the short period of two years, it is necessary to form a plan by which both objects may be forwarded together; but in such an arrangement the interruptions of the instruction must be frequent, and the mixing up of both objects must be attended with some confusion, which is found by experience to impede the progress of the students. When, on the contrary, the term is extended to three years, the first two are chiefly employed in completing their acquaintance with the subjects of instruction; and the last year is mainly, if not exclusively, appropriated to acquiring the art of teaching under the guidance of one of the teachers in the elementary school annexed to the

seminary. By this arrangement the seminarists have only one principal object in view at once, which with all men, except those gifted with extraordinary genius, is the only way of rising above mediocrity in any branch of knowledge and its applications. Besides this, the latter arrangement offers another important advantage: the seminarists are not appointed to the management of schools at too early an age. As they enter the seminary on the completion of the sixteenth year, their instruction, if it be only a two-years' course, is terminated at the completion of the eighteenth year, which is reasonably considered to be an age at which it would not be prudent to intrust to them the management of a school. At this time of life one or two years make a great difference in maturing the mind and giving it more steadiness and judgment. It is true that, according to the laws, the seminarists are not to be employed as schoolmasters immediately on leaving the seminary; but as the number of individuals trained in the seminaries for the instruction of the lower classes is not yet quite equal to the demand, up to this moment they have generally entered a school as teachers immediately on leaving the seminary, and consequently are no longer under such strict superintendence as persons of that age ought to be. Whenever the term in the seminaries lasts three years, they commonly complete their twentieth year before they are employed in this manner.

This term of three years, as already mentioned, is divided between two objects—the completion of their own knowledge, and the acquisition of the means of imparting it to children. The first forms their principal if not their exclusive occupation during the

first two years of their stay in the seminary, and the last year is appropriated to the attainment of the art of teaching.

In most of the Prussian seminaries, and in all the larger ones, the seminarists are divided into two or three classes for the sake of instruction. But in the smaller seminaries they are all instructed in one class, which is the case in the seminary at Königsberg. But it is intended that such arrangements shall shortly be made, that the seminarists shall be divided into two classes, because it is evident that this arrangement will greatly promote their progress. For this reason we cannot lay before the reader a complete scheme of instruction arranged according to the classes; and we must limit our observations to the different subjects taught in the seminaries, to the extent to which they are carried, and to the mode in which they are taught. Though religion forms one of the principal parts of education, it is not instruction in religious dogmas which is principally kept in view; for it is reasonably supposed that persons who have completed their sixteenth year of age, and have previously had the best kind of education which can be obtained in the elementary schools, must be acquainted with these dogmas. But it is not thought sufficient for a teacher to know them and to understand their meaning and import. He must be able to explain them to others, to apply them to practical life, and to exhibit religious feelings in his own conduct and behaviour. With this view the first object is to excite and maintain religious feelings in his mind, and to confirm his religious habits. It is attempted to effect this partly by instruction and advice, partly by the mode of life established in the seminary, and by reading regular prayers,

and the singing of religious hymns at the beginning and at the close of the daily instruction. It is laid down as a principle, that a man whose religion is not intimately combined with his sentiments, is totally unable to teach religion to others with any practical effect, whatever may be his power of instruction or his eloquence. This, therefore, is looked upon as the true basis of religious instruction. At the same time the seminarists continue the study of the Bible and of the tenets of the Christian church to which they belong; and they must be acquainted with both so intimately as not only to be able to answer every question on religious matters, but likewise to explain the different Christian doctrines in a well-connected discourse, quoting for every tenet contained in it the passages of Scripture which prove such doctrines. To this the seminarist must also add the power of speaking to children on religious subjects in such a way that his reasoning may not only be easily comprehended, but also adapted to affect the minds of the children, and to operate on their habits.

To effect this object, the seminarists are instructed in dogmatical, moral, and religious science, and in ecclesiastical history, and are made acquainted with the most important introductory observations on the whole Scriptures, as well on every part of it. At the same time the Bible is read with them, sometimes the New and sometimes the Old Testament, partly as a devotional exercise, and partly to instruct the seminarists in the best method of explaining the most difficult passages to children.

Peculiar care is taken to instruct the seminarists in the German language, as this is the most important of the instruments by which they have to perform their

labour. In order that they may speak and write correctly, the grammatical part of the language is treated with great attention, and the results of modern researches on the German language are communicated to them, whenever they are of such a nature as to admit of practical application. No less care is taken in bringing them to a habit of writing every kind of prose composition; for which purpose Falkmann's "Manual for German Composition," and the "Methodic" of the same author are much used. Another kind of exercise consists in making a discourse, or a kind of lecture, on any given subject, and frequently without previous preparation. Lastly, the seminarists are requested to read the most classical German authors, poets as well as prose writers, to one another, and they are required to explain those passages which are obscure, which contain allusions, or present any other kind of difficulty.

The seminarists are taught to cast up every kind of accounts with quickness and exactness, and they are also made acquainted with the rational principles on which every arithmetical operation rests, so that they may be able to explain them to their pupils with clearness and precision. They are frequently exercised in casting up accounts mentally, and they are not permitted the use of figures till they have attained a certain degree of facility in calculating without them. In the instruction itself, pure arithmetic always precedes the application of the operations to particular cases, in order that the seminarists may in this way be accustomed to a methodical proceeding. The printed books used are the arithmetical treatises of Kaweran, Diesterweg, and Scholz.

Singing constitutes an important subject of instruction all over Germany, even in the schools for the lower classes, especially in the Protestant countries. This is to be attributed to the manner in which divine service is performed in church. Luther was very fond of singing, and he was of opinion that his devotion was considerably increased by the singing of a religious hymn. He therefore promoted, by every possible means, the introduction of sacred hymns into divine service. This practice has continued nearly unaltered since his time, and it is the custom for the whole congregation to join in the song with a loud voice. This renders instruction in singing a necessary part of school education. In the Prussian seminaries singing is taught on the system of Nägeli, a Swiss, in a methodical manner, beginning with instruction in the principles of time, and then proceeding to the theory of harmony, &c. But as the seminarists, before their admission into the seminary, have generally acquired some knowledge of and practice in singing, this system is not so strictly adhered to as would be necessary if the instruction was given to mere beginners. It is rather intended to indicate how this art is to be taught in a methodical and scientific way. Besides the study of an instruction-book of singing, the seminarists are required to exercise themselves in chorusses, sung by more or less numerous voices, sometimes arranged only for the voices of grown-up men, and sometimes intermingled with those of boys. In this way chorusses and motets of Haydn, Bach, Mozart, Klein, Rungenhagen, Rink, Schultz, &c., are studied and publicly sung on some solemn festival, as for instance on the foundation-day of the institution, at a public examination, &c.;

sometimes also in the cathedral at Christmas, Easter, &c. In that portion of the Prussian dominions in which Königsberg is situated, singing is not so extensively diffused as in some other provinces; but as it is considered one of the most efficient means for harmonizing the mind and exciting proper feelings, this part of the instruction of the seminarists is most carefully attended to, and the exercises are systematically practised. It is required of them to sing more easy compositions at sight.

Those seminarists who show talent for music receive also instruction in the rudiments of harmony and thoroughbass, according to the method of Logier. This branch of instruction is carried so far, that they are enabled to supply with precision all the omitted voices when only one of them is given, to compose preludes and postludes to every piece of sacred music, and to compose tunes and music to any given poetry. This last accomplishment of course can only be attained by a few of the seminarists.

As many of the seminarists may be appointed to schools where the teacher is required to play the organ of the parish church, instruction on this instrument is considered an integral part of the education of a schoolmaster; and in the written testimonials which are delivered to the seminarists on their leaving the institution, it is expressly inserted if they are qualified to act as organists. To obtain such a testimonial the seminarist must be able to play at sight every given piece of sacred music, with the pedal bass figured only and the simple melody, and to play it on an organ with pedals; besides, he must know how to compose preludes, postludes, and interludes, and be acquainted

with the theory of music, or the thoroughbass. The seminarists also receive some instruction in playing the violin, because this instrument is the most proper for being used in teaching singing. Other instruments are taught only to a few, and for the purpose of enabling them to accompany the larger chorusses with instruments in their exhibition at some solemnity. In this branch also other seminaries of the Prussian dominions are much more advanced than that which we are here describing. In Silesia, Saxony, and other parts of the monarchy, music is much more diffused among the people, and the seminaries are accommodated to this taste. In Breslau, Bunzlau, Erfurt, Magdeburg, Halberstadt, the seminarists play large symphonies with great taste and precision.

The study of mathematics is carried to a considerable extent. Those seminarists who show talent for this branch of knowledge go through a complete course in the geometry of lines, planes and solids, and are instructed in the art of surveying, but without the use of artificial instruments. The instruction in algebra comprehends simple equations, with one or more unknown quantities; and the seminarists are not allowed to write down the equations, but must solve them mentally. Besides this, they are instructed in proportion, the doctrine of progressions, the binomial theorem, and pure and adfected quadratic equations.

As the Prussian government desires to diffuse as much as possible the knowledge of nature, and to excite the lower classes to observe its productions, the study of natural history is much attended to in all seminaries. A general view of the three kingdoms of nature, as they are called, is given to the seminarists, and

followed up by an enumeration and description of the principal products of each. More minute particulars are then given to them on such productions as occur in the Prussian territories. At the same time care is taken to show the different applications which are made of these productions in domestic economy and manufactures; and thus technology is united to natural history. The small natural history composed by Schubert is the manual for the seminarists; and small collections of mineralogy, of birds, insects, &c., are shown and explained to them, in order to render the instruction more permanent.

Natural philosophy is treated nearly in the same manner. For a long time this science has been considered one of the principal subjects of instruction, and has therefore been taught in all public schools and private institutions for the middling and upper classes. But as this branch of knowledge has made wonderful progress in modern times, the German teachers have thought it necessary to confine their instruction to general principles. Thus the student obtains a general view of the whole, and of its principal divisions, and is enabled to complete his knowledge at a future time, if he should find it advantageous to enter on the minute study of any one branch. The number of elementary treatises on natural philosophy in the German language is very great, and each is designed and adapted for a peculiar description of schools. In the seminary of Königsberg—and we think in most others too—the manual used is that of Herr, entitled "Short View of the most useful Parts of Natural Philosophy" (Kurzer Inbegriff des Wissenwürdigsten aus der Naturlehre). The explanation of the laws of nature is illustrated

by well-adapted experiments as far as it is possible. The apparatus for such experiments is as simple as it can be made, in order that the future schoolmaster may be enabled to explain many of the natural phenomena by means which the domestic economy of every house affords. Some of the seminarists who show an inclination for this kind of study are instructed in making instruments, such as thermometers, or small models of pumps, machines with wheels, &c.

The instruction in history comprehends general history and the history of Prussia. Of ancient history only the principal facts are taught, but that of the middle ages is treated more extensively, and still more so modern history. The last, inasmuch as it is more intimately connected with the history of Prussia, is taught still more minutely. The instruction in ancient history and in that of the middle ages is continued for a year two hours weekly, and as much time is appropriated to the study of modern history and that of Prussia in particular. The object of this instruction is not the accumulation of a great number of historical facts in the memory of the seminarists, but the implanting of such facts as are connected with the life and occupations of the great body of the people, and with their condition. For this purpose the seminarists are exercised in narrating orally a larger or a smaller portion of history which is given to them, in doing which they have to keep in view some particular end or object, and are required to arrange their matter in a connected and perspicuous order. The manual used for this branch of instruction is that of Tetzen.

Mathematical geography, or the use of the globes, is only taught so far as it is necessary for the explanation

of the most important phenomena connected with the subject and the use of maps. It is followed by a general survey of the divisions of the globe; in doing which all the existing political divisions are excluded, in order that the characteristic features of the surface of the earth may be known and impressed on the mind with distinctness. After this has been effected, the present political divisions are briefly added. This instruction takes one year and a half, and the remaining half-year is employed on the geography of the Prussian territories, and more especially of the province in which the seminary is situated. For general geography the usual manner is that of Volger, but for the geography of the different provinces different small books are used.

As persons who possess some knowledge of the human body are commonly more attentive to the preservation of their health than those who are ignorant in this respect, it is considered that the welfare of the great bulk of the people will be promoted by the dissemination of such knowledge among them. With this view the seminarists receive some instruction of this kind in a weekly lesson during one semestre, in which care is taken to point out what is conducive and what is hurtful to health, as well as the most simple and approved remedies. With this instruction is united a short course of psychology, in which the chief phenomena of the human mind are indicated and explained.

The last subject in which the seminarists are instructed in the seminary is drawing. It is evident that this kind of instruction cannot be carried to a great extent in elementary schools. The most important part is connected with the elements of mathematics, by which the seminarists are made acquainted with the

regular and irregular forms which frequently occur, and learn to draw them. But besides, all of them are bound to acquire some facility in copying drawings, and peculiar attention is paid to instruction in perspective. Those seminarists who show some talent not only learn to draw single objects, but also landscapes. The instruction is given according to the method of P. Smid, and in the practical application of it Ramsauer's instruction in drawing is used.

Such are the subjects in which schoolmasters for the lower classes are instructed in the seminary at Königsberg, and we do not think that there is any material difference in this respect between it and other seminaries. For as every change in the subjects of instruction either emanates from government, or can only be introduced by its express consent, the seminaries are now brought near to one uniform standard, and consequently carry their instruction nearly to the same point.

It is obvious that during the course of this instruction many opportunities occur of explaining to the seminarists the best method in which every branch of knowledge, or some more difficult parts of them, may be taught and adapted to the comprehension of children; and such opportunities are not allowed to escape. Experience is rapidly increasing the number and contributing almost daily to the perfection of the methods. Nevertheless it is thought indispensable to instruct the seminarist separately in the art of teaching, or in *pædagogic* and *methodic*. This part of their instruction is both theoretical and practical.

The third year of the stay of the seminarists in the institution, as already observed, is more especially employed in receiving instruction in the art of teaching;

but they are previously made acquainted with the theoretical part of it. During the first year, for two hours a week, the director of the seminary, or one of the teachers, instructs them in general and special pædagogic, not by delivering lectures, but by entering into conversation with them. First, the general principles and the principal subjects of education are explained; and afterwards, the duties of the teacher, not only as a person who has to teach, but also as one who has to educate the people. In these discourses the future teacher hears how he ought to direct his efforts towards the preserving and improving the health and mental and moral qualities of those who will be confided to his care in an elementary school. To this is added a short view of the history of education and of instruction, more especially in Germany. In order that this information may not escape the memory of the seminarists, the teacher gives them a manuscript, in which the principal points of this instruction are explained, or, as is the case in many other seminaries, the seminarists use for their further instruction Harnisch's "Manual for Schoolmasters in Elementary Schools."

A similar course is adopted in the second year for the instruction in methodic, or in the art of teaching. After the general principles of instruction have been fully explained, all the subjects which are to be taught are taken into consideration, one after the other, and the extent to which every subject is to be taught, and the manner in which it may be taught with the best effect, are ascertained. At the conclusion of these discourses a number of observations are made on the discipline of schools, the arrangement of the subjects, the relation in which the schoolmaster is placed towards his superiors,

the inhabitants of the parish, the parents of the children, &c. During these discourses the seminarists are made acquainted with the principal treatises and books on these matters, many of which are given to them to read.

To induce the seminarists to increase their knowledge, and to complete their views respecting the best method of educating and instructing children, they are requested to read books on such subjects, and are allowed access to the library of the institution, which contains a pretty complete collection of books on pædagogical subjects, and is placed under the care of one of the teachers. A kind of control is established at the seminary for the purpose of ascertaining whether or not the books have been read by the seminarists, and in what manner and with what effect. Every seminarist before he leaves the institution is bound to deliver to the committee of examination a catalogue of the books treating of pædagogic or methodic which he has read, and an abstract of each of them, which ought to be short, but in some manner complete. This practice, as may readily be conceived, is attended with very good effects in keeping up the industry and attention of the seminarists.

When the theoretical instruction of the seminarists in the art of teaching has been nearly completed, the practical part begins. According to the laws of Prussia, a school is attached to every seminary, in which a sufficient opportunity is afforded to the future teachers of elementary schools of exercising themselves in the application of what they have been taught. In the larger seminaries such schools are divided into two or even three classes; but at Königsberg it contains only one class with three divisions. This arrangement is rather

to be attributed to the want of sufficient accommodation in the building; but instead of being considered a disadvantageous circumstance, it is rather thought advantageous, and for this reason: by far the greatest number of the elementary schools in the province of Königsberg, for which the seminarists in this institution are exclusively designed, have only one teacher. Now it is evident that among these children, who frequently amount to fifty and more, there must exist such a difference in age, knowledge, and mental faculties, that, if possible, they should be divided into three or more classes. But still they are to be instructed by one teacher. It is therefore very advantageous that such a teacher should have learnt by experience how he has to manage the matter, in order to be able to teach properly a school consisting of three divisions.

In the seminary-school the young teachers begin their practical exercises with teaching a division in the presence and under the direction of one of the teachers, and they continue to do this for some time, till the director of the seminary is convinced that their progress in the art of teaching has been considerable. He then places a whole division under their independent exertions for a fixed period, and observes their skill and the progress of the children. At the end of every semestre an examination takes place, in which the seminarists alone examine, before a committee, the divisions which have been confided to their instruction.

To support and excite the industry and emulation of the seminarists, a conference between them and the teachers of the seminary is held once a month, in which their scanty experience is supplied by the more extensive experience of the director and of the teachers. The

discussion which takes place in such conferences relates especially to the instruction itself, to the discipline, the treatment of the class or division, to particular children and their perverse inclinations, and the most proper means of correcting them. In these conferences the director of the institution encourages the open and independent declaration of their opinions by the seminarists.

The senior seminarists are by turn charged with keeping the lists of the absentees and the other school lists; they are likewise to receive the children when they enter the school before the beginning of the instruction, to examine those who are not cleanly, to superintend them during the play hours, to observe them when they leave the school to go home, &c. By a proper attention to these points they are fitted for the due exercise of their future vocation.

After a stay of three years in the institution, the seminarist is dismissed to be employed as teacher in an elementary or middling school. But before his dismission he must again submit to an examination, and to rather a rigorous one. This examination is threefold. It consists of some written compositions, of a display of his skill in teaching, and of a personal examination by the committee.

The compositions are made in the presence of one of the teachers, and consist—1, of a catechetical essay on a given passage of the Bible, or a section of the Catechism—2, another essay on some branch of pædagogic or methodic—3, of a composition on general instruction in some scientific subject—4, of the solution of some mathematical problems—5, of a composition of sacre music for the organ, with prelude, interlude, and post-

lude, as well as another to be sung by three or four voices. The seminarists must prove the skill which they have attained in the art of teaching, by catechising a division of the school in the presence of the committee on some of the tenets of the Protestant religion, and afterwards by some lessons on other subjects. The subjects of this part of the examination are announced to the seminarists the day before, that they may have time to prepare themselves for this display of their skill and talents.

The personal examination comprehends all the branches of knowledge in which they have been instructed during their stay in the institution. They must show,—

1. That they have a complete knowledge of the religious tenets and of the moral principles of their persuasion, and that they are able to discourse on any of these subjects with perspicuity and precision.

2. They must be fully acquainted with the memorable events contained in the Bible, and understand how to explain any one of them in a comprehensive way to children.

3. They must have acquired the knowledge of the language, so as to know how the sounds, syllables, and simple words are formed, how the derivative and compound words are made, and lastly how the termination of words are changed, sentences formed, and a whole composition arranged. They must show that they know how to apply this knowledge to every peculiar case.

4. They must have an historical knowledge of the different methods of teaching the several branches of knowledge, and how to apply them; more especially

they must know the different methods used in teaching to read, to draw, and to perform the common rules of arithmetic.

5. They must be able to play the ordinary pieces of sacred music by heart, and the more difficult and those which do not occur frequently with the assistance of written music.

6. They must be well versed in all kinds of calculations, both on paper and mentally, and they must prove that they know the reasons on which each operation rests, and that they are able to explain them with perspicuity.

7. If the seminarists wish to be employed in the town-schools, they must be acquainted with the fundamental principles of geometry, as well as with the elements of algebra.

8. They must show a knowledge of the more practical parts of botany, zoology, and mineralogy; for instance, they must be well acquainted with the poisonous and medical plants, and with the trees growing in their country, and their different uses in domestic economy or the mechanical arts.

9. What they must know in natural philosophy, history and geography, has been indicated before.

10. Those who wish to be employed as organists must be able to play every piece of sacred music with the pedal bass figured only, and the simple melody given on an organ with pedal, and to compose preludes, interludes, and postludes; besides they must be so far acquainted with the theory of music as to be able to compose the accompaniment of every given tune for the organ, or to arrange it for three or four voices.

After the examination, written testimonials are deli-

vered to the seminarists who are going to leave. These testimonials are divided into three classes, and numbered I. II. III. Those seminarists who have proved that they have acquired all the knowledge required by the regulations of government, receive the testimonials numbered I., with the word 'distinguished.' Those who have not completely acquired that knowledge in all branches, but who have proved that they are well acquainted with the principal subjects, that is, with religion, language, arithmetic, and singing, receive testimonials numbered II., with the word 'good,' sometimes 'very good,' sometimes 'nearly good.' Lastly, those who have not acquired a complete knowledge of the above-mentioned branches, but nevertheless have made such progress in some of them that they can be employed in less numerous and poorer schools, receive testimonials numbered III., with the words 'sufficiently instructed.'

According to the first regulations issued by government in this matter, all those who had not obtained the testimonials numbered I. were to submit to another examination, by which they should prove that they had supplied their defects. But after some time the directors of the seminaries were requested to give their opinion on this point, and nearly all of them declared that many of the seminarists could never obtain such a degree of knowledge as to entitle them to the testimonial numbered I., because they did not possess sufficient talents. But nevertheless most of them were very industrious men, and would doubtless be very good schoolmasters. The directors therefore thought, that only those who had received testimonials numbered III. should submit to a second examination before they

could be employed as teachers in elementary schools; and government acceded to this proposal.

The whole institution contained, in 1834, in its different divisions, 192 seminarists and children, namely,

a, in the seminary,

1, seminarists who belong to the orphanotrophy, and receive board and lodging gratis	5
2, seminarists who are maintained by their relations, and visit the seminary gratis*	38
	43

b, in the preparatory school, or what is properly called the orphanotrophy,

1, orphans receiving board, lodging, instruction, &c., gratis . . .	24
2, boys who are destined for entering the seminary, and maintained by their relations	25
	49

c, in the seminary-school, boys and girls . 100

The number of teachers in this institution is five, namely the director of the seminary and four others.

In the last eight years, or since the complete organization of the seminaries in Prussia, 87 seminarists have been educated in this institution:—

* Since the beginning of this year government has ordered that six seminarists who are poor but industrious shall receive a monthly allowance of two dollars (six shillings).

	No. I.	No. II. (very good)	No. II.	No. III.	Total.
1826 (Michaelmas)	,,	2	2	,,	4
1827	,,	3	1	1	5
1828	,,	4	3	,,	7
1829	1	3	3	2	9
1831 (Easter)	1	3	7	2	13
1832	1	2	9	5	17
1833	1	4	9	2	16
1834	5	5	3	3	16
	9	26	37	15	87

Of this number some were employed in town-schools, others in elementary schools in the country, and a few as private teachers in families:

In town-schools . . .	38
,, country-schools . . .	33
,, private tutors . . .	16
	87

END OF VOL. I.

Printed by William Clowes and Sons, Stamford Street.

UNDER THE SUPERINTENDENCE OF THE SOCIETY FOR THE DIFFUSION OF USEFUL KNOWLEDGE.

THE

SCHOOLMASTER:

ESSAYS ON PRACTICAL EDUCATION,

SELECTED FROM THE

WORKS OF ASCHAM, MILTON, LOCKE, AND BUTLER;

FROM

THE QUARTERLY JOURNAL OF EDUCATION;

AND FROM

LECTURES DELIVERED BEFORE THE

AMERICAN INSTITUTE OF INSTRUCTION.

IN TWO VOLUMES.—VOL. II.

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THE SCHOOLMASTER.

PARTICULAR BRANCHES OF EDUCATION.

ON TEACHING READING.

By CHARLES BAKER,
AUTHOR OF "A TEACHER'S LESSONS ON SCRIPTURE CHARACTERS."

(From the Quarterly Journal of Education, No. XV.)

THE early instruction of children is a subject deserving of all the attention which it has received from some of the most profound thinkers. During the last few years various alterations, and, in some instances, improvements, have been proposed upon the old plan of teaching reading. The success of these attempted reforms has been comparatively trifling, either from teachers being the last to learn, or from the public being averse to innovations, however plausible in appearance. It is certainly an undeniable fact, that we see around us, if not the horn-books of the last century, at least the same machinery by which the memory was drilled into the names of letters and words in the dark ages. In the National and other popular systems of education twelve precious months are still required for teaching children to read. In private schools and families as much time is spent in attaining the same object. Why bad plans should oppose such a barrier to change and improvement, when more rational systems are proposed, it is not now our purpose to examine, any further than may be incidentally necessary to the elucidation of the

method which we propose for simplifying the mode of imparting a knowledge of written language to children.

In all communities there are a few minds considerably in advance of the many; a few who will think and act for themselves, in spite of the trammels imposed by custom. The prevalent errors on the subject of which we are about to treat have been long felt by solitary individuals. Evidence enough is at hand that improvements on the old system of teaching reading have taken place, and some few fortunate children have been initiated into language, without undergoing the toil of the alphabet and the spelling-book. But these are rare exceptions; the infant mind is still generally committed, during the first years of its intellectual existence, to the tender mercies of the dame and the schoolmaster, who preside over its progress with a book in one hand, and a rod in the other. The reluctance of mankind to adopt shorter methods of acquiring knowledge originates in a spirit as unenlightened as that which opposes itself to improvements in the machinery of our manufactures. A portion of the community, it must be allowed, who were not unfriendly to the more rapid progress of their children in the elements of knowledge, would have yielded to their better convictions, had they not been afraid of upsetting the infant's vehicle, by attempting to conduct it over a path never travelled by themselves. From this, and various other causes, the art of teaching to read has been as nearly stationary as possible, and it is much to be feared, that, unless a powerful conviction can be created of its unfitness for the purposes of popular instruction, the minds of children must still continue to struggle in the fetters of an antiquated and ill-adapted system.

An attempt will be made in the present article to show how a child may be taught to read, with less trouble and anxiety to the teacher, and with more improvement and pleasure to the taught, than is generally found to accompany such a progress. The suggestions relative to the first stages of instruction will be found in some measure applicable to infant schools; and those referring to the more advanced stage—learning to read—will be equally applicable to the other schools for the young.

It is no uncommon thing to be introduced to some prodigy of learning in a family, the two or three-years-old pet of some good-natured aunt, or perhaps nearer relative, and to be invited to pass judgment on his acquirements after witnessing an exhibition of his abilities—these acquirements often amounting to a very perfect knowledge of the twenty-six letters, a repetition of verses, and a catechismal examination on the Scriptures—all learned by rote. Some well-meaning persons, not versed in such matters, have frequently marred such exhibitions by ill-timed interference and cross-examinations, equally offensive to both child and parent. The sensible visiter will allow such scenes to pass before him in silence; the early age of the child forbids us to suppose that he understands all that he has been taught to repeat.

The present mode of teaching the art of reading is not more defective as an instrument for unfolding the capacities of the intellect, than for communicating the knowledge and pronounciation of words. An imperfect utterance is almost universal in the young, for want of the application of a few simple corrective principles. By well-adapted exercises, and careful repetitions, the

pronunciation of most children of three years' old may be made almost perfect. Inattention to this in early years is the cause of much of the defective utterance that we observe in youth, and in grown-up persons. A child's manner of speaking is too much disregarded; if it be intelligible, it is deemed sufficiently correct to pass current. The imperfection being no great obstacle to its progress in knowledge, it is thought that, as the child grows older, the evil will correct itself. Like other errors, which, from being unnoticed at first, settle into vices, this evil sometimes produces a faulty habit of speaking which can never be eradicated. By patient care on the part of the teacher, this defect is often very much modified, and in many instances removed; but that this is not always the case the immense number of imperfect speakers bears ample evidence; and if there is a possibility of preventing such impediments by early attention to a child's pronunciation, it is surely better to attain this certain good, which may be attained without trouble or annoyance to the child, than to force it to utter words above its comprehension, and to dole out sounds which nobody can understand.

It is not to be supposed that stammering can always be prevented by early care. Sometimes this affection proceeds from mental excitement, and sometimes from organic defects; even in such cases the evil may be considerably diminished by a proper treatment at the time of its first appearance.

Correct pronunciation is the first thing to be attended to in the education of children, and childhood is the period most suitable to its attainment. When too volatile to apply its mind to books, a child will receive much pleasure in being talked to, and in being heard

to talk; and no one will deny that this is a more rational way of occupying the thoughts, than for it to be employed in poring over the forms of the letters, and attaching sounds to them of which it cannot conceive the meaning.

The names of objects should be taught simultaneously with pronunciation, care being taken that the utterance is in all cases full and distinct. It will not be necessary to classify all words according to their syllabic formations, such a classification being only necessary with words which the child utters imperfectly. The *l*, the *w*, the *d*, the *r*, and the *y* are often difficult letters for a child to pronounce: *table* is called *tabin; elephant, a-yephant; wood, vood*; *dog, gog; rabbit, thabbit* or *yabbit; yesterday, thesterday*, &c. In all such instances of mis-pronunciation, words should be selected containing the unpronounceable letter, which should be very deliberately articulated in its different combinations, the child being made to observe the different position of the organs of speech, as different sounds are produced. We cannot refrain from giving one instance which we recently observed, showing the facility with which infant pronunciation is corrected. A child of about two and a half years old called a *stick*, a *kick*. Being desired to pronounce it again, *kick* was again repeated. She was desired to imitate the low, hissing sound of *s*, as used in this combination, which she did correctly; the sound of *t* was also clearly uttered, both singly and preceded by the *s*; the termination *ick* followed, also correctly: so that it was clear that the child could pronounce separately all the sounds composing the word, and that there was no real impediment to the pronunciation of the whole word. The word was then deliberately

uttered, the sounds of the *s* and *t* being lengthened, and the child being made to observe the position of the organs during the utterance. The effect of this dissection was, that the child repeated the word quite distinctly many times in succession.

It is unnecessary, in what must be merely the outline of a plan, to enumerate the varieties of combinations in which difficult letters are to be discovered, and the means by which such difficulties may be removed. The instructor will readily apply the principle, and extend it to those sounds which are most difficult to acquire. There is a wide diversity in the facility of speech among children; some will stumble at sounds which to others will be quite easy.

The natural habits of children, so to speak, must be the key to their first instruction. A child begins to observe very soon after its birth; for the first two or three years its knowledge is almost confined to those objects which are evident to its senses; its methods of acquiring such knowledge are well worth consideration. The child sees an object, reaches towards it, grasps it, applies it to its mouth, endeavours to produce sound by striking it against a table, or anything else that is near; and thus acquires some knowledge of the properties of things, even before it can speak. By a process similar to this, different parts of knowledge may be conveyed to a child in a more advanced stage. When a child has learned to pronounce words, we may teach the names of those properties already familiar to him, and proceed to illustrate, to generalize, and to extend his knowledge by various examples.

For children from three to six years of age, we know of none so good as oral exercises on the names and

properties of bodies. The world of nature and art will furnish a never-failing supply of examples. Pictures will materially assist in such exercises; a slate and pencil will also help to amuse and instruct. Books, reading, and spelling, should not, in our opinion, be introduced at this early stage. Careful pronunciation, and correct oral language, should always accompany these primary lessons. Form, magnitude, weight, colour, number, sound, are the chief developments to be made during the infancy of the mind. Instruction in these may be imparted without books. Few situations are unfavourable to the growth and expansion of the youthful intellect by the analysis of objects; the rooms of a house, the garden, field, wood, road, will all supply materials well adapted for this purpose.

To explain the kind of lessons which it is proposed to substitute for the present very unsatisfactory modes of commencing a young child's education, the following examples are given; from which it will be seen that a person of very moderate attainments may both amuse and instruct a child of three or four years old.

"*Teacher.* What covers the floor of the parlour?—*Child.* A carpet. *T.* What colours do you observe on the carpet?—*C.* Red, blue, brown, yellow, green, &c. *T.* Bring me your slate. What shape do you call this? (drawing a circle.)—*C.* Round. *Other figures are drawn, and their names told to the child. T.* Now tell me the shape of the carpet?—*C.* It is oblong. *T.* What else in the room is oblong?—*C.* The windows, that table, &c. *T.* Which is larger, the carpet or the floor? Now look round every part of the floor.—*C.* The carpet covers the whole floor—the carpet is the same size as the floor. *T.* What is the small carpet called

which lies before the fire-place?—*C.* A hearth-rug. *T.* Yes. Are its colours like those of the carpet?—*C.* No. *T.* No; they are brighter and deeper. Now look well at the carpet—feel it—and tell me of what it is made. Is it made of wood?—*C.* No; it is not hard like wood. *T.* Is it made of leather?—*C.* No; it is not at all like my shoes. *T.* Of what are your warm socks made?—*C.* Of worsted. *T.* Yes, the carpet is also made of worsted; coats, cloaks, and other warm articles of dress are made of worsted—blankets also—and worsted is made of wool. And you know we get wool from—*C.* Sheep. *T.* I must tell you about the mode of making carpets when you are older.

"*T.* What are the men doing in this field?—*C.* They are reaping. *T.* What are they reaping?—*C.* Corn. *T.* What kind of corn is it?—*C.* Wheat. *T.* What other kinds of corn have we seen growing in the fields?—*C.* Barley, oats, rye. *T.* Wheaten flour is made into bread. When wheat is reaped, it is tied in sheaves, and these are left that the wheat may harden. It is hardened by the heat of the sun, and the dryness of the air. Some time after it is stacked in large heaps, called corn-ricks. Afterwards it is beaten with a flail to get the grains of corn out of the ears. This work is called threshing. Here is a grain of corn and this is an ear. There are many grains in one ear. After the corn is threshed it is taken to the mill to be ground, &c. Now tell me what is made of wheaten flour?—*C.* Bread. *T.* What else? Think.—*C.* Puddings, cakes. *T.* Why is wheat left in the field after it is reaped?—*C.* To harden. *T.* By what is it hardened? &c."*

* Should the attendant of the child be at a loss for subjects, or be unable, from a defective education, to invent such simple

These examples may suffice to show how much useful knowledge may be given to children before reading is necessary. During such a progress, the mind becomes enlarged, and capable of receiving real advantage from books, when it is thought desirable to commence reading. A child so trained will have a tolerable knowledge of the structure of our language, including all the ordinary forms of expression. It will surely be thought a greater advantage for a child to possess such a knowledge of things, and of language in which to express its knowledge, than for the time so occupied to have been spent in poring over primers and verse-books, learning what it could not understand, almost to the exclusion of that information thus pleasantly acquired, and so suitable to the capacity of childhood.

The writer is of opinion that reading should form no part of a child's employment until the mind, being thus trained, begins itself to seek for the means of drawing instruction from books; that, then, reading and writing should commence together; that a knowledge of things should precede or accompany a knowledge of words; and that the perceptive faculties should be the first to be instructed. In carrying this plan into operation, it will be necessary, first of all, to show the child that words represent ideas; that the names of objects may be written on paper or on a slate; and that the same ideas may be conveyed by writing as by the voice. A little practice, in a few words with which the child is familiarized, will accustom him to the association of

lessons as the above, much assistance may be obtained from Mrs. Trimmer's and Miss Edgeworth's children's books; at this early period the teacher alone should have recourse to works of this character—they should by no means be put into the hands of the pupil.

words and things. All the early exercises in reading should tend to draw out the child's previous acquirements. The lessons should be progressive, and every sentence contained in them ought to possess a meaning complete and intelligible.

The writer is altogether opposed to the difficult task of alphabetical instruction, whether pursued on the irrational plan of our forefathers, or on the certainly more natural modes which have been recommended in primers of a later day. Neither plan is necessary, and both are devoid of interest to a child. Syllabic reading is also surrounded with difficulties; and though much laudable ingenuity has been expended in the development of methods founded on syllabic sounds, with a view to supersede the A B C, evidence is not wanting that even such introductions to words are unnecessary. Many writers for little learners have claimed the patronage of the public for their monosyllabic lessons. We have several reasons to oppose to their views. There is a certain degree of similarity in many of the words which tends to confuse the child. An immense number of particles obtrude themselves into lessons so constructed. The words are not words used by a child in ordinary conversation. There is an objectionable stiffness, a quaintness, a want of variety in such lessons, inducing monotony in a child's manner of reading.

A child's reading lessons ought to be on subjects of interest, and, while he is learning to read, on subjects with which he is in some degree familiar; so that he may not meet with many expressions which are strange to his ears, and with none that he is unable to pronounce after his teacher. The advance from simple to more difficult lessons ought not to be founded on the

length of the words, but on the complexity of the ideas which they convey. Of what consequence is the length of a word if a child can pronounce it, and if he is acquainted with the idea so represented? And how large a vocabulary has a child, even under ordinary circumstances, whose mind has been under this kind of culture for four or five years. Supposing a child to have been trained at home, or at an infant school, in some such manner as has been recommended—when reading is commenced as an art, a lesson containing ideas well known to the juvenile learner should be taken. Let the subject be a garden. After telling him that he is now to learn to read, we write, in his presence, an exercise something like the following:—

"A flower-garden is beautiful. Flowers are pretty. Some flowers are sweet. A daffodil is yellow. Snowdrops are white. Roses are red—some roses are white. Violets are blue—they are very sweet. Leaves are green."

Two or three such sentences as the above will be enough for a first lesson. After a few repetitions, the pupil will point out every word required. The difference in the length of the words is an advantage. Words are arbitrary pictures; they express different ideas, and a child will naturally expect them to be not the same in their appearance. This dissimilarity will assist in their acquisition. And the perfect acquaintance which, on our plan, the child has with the ideas conveyed, and the pronunciation of the words which he hears repeated, leave him at liberty to devote both his eye and his mind to the form of each word. This is the one great end now to be accomplished. He has to remember the entire combinations—not the letters, nor the syllables

—but the *words*, so that he may recognize them at once whenever he sees them. To give facility and strength to this exercise, writing must accompany the reading of the words. The child transfers his reading lesson to his slate at first in any hand that he can, large or small. After a few lessons, his rude attempts at writing may be reduced to any size at the will of the teacher; a light round-hand is recommended for the first few months.

Something may here be said on the education of the eye. A plan which has been found very beneficial with young children, and which is equally suitable for the school-room or for the nursery, is as follows:—Let one of the walls be painted a dark slate colour, upon which objects may be drawn with chalk the size of life. Small pictures are not always recognized, while outlines of objects of their natural dimensions are at once perceived. Thus, also, the forms of the words composing any lesson may be written very distinctly, and imitated by the little learner, either upon the wall or by means of a slate and pencil. A painted surface is an enduring tablet for writing lessons upon, and for drawing any necessary illustrations connected with them; and thus the exercises of the pupil may be made to assume all the interest of oral and written language combined with delineation.

After a few lessons on a variety of subjects composed chiefly of short sentences, any book of general knowledge may be used in a similar manner, the teacher writing and pronouncing a sentence, examining the child upon the different words of which it consists, and occasionally leaving his pupil to write it upon the slate. During the writing operation, the teacher should not

only instruct the child in the use of the pencil, but he should also repeat the words of which the sentence is formed, and add explanations and examinations by questions, if the subject is beyond the child's previously acquired knowledge. Natural objects will furnish a fund of materials of which the teacher may avail himself in his selections of lessons. On these subjects every thing is tangible, and can be illustrated and made interesting. Geography is another subject capable of being rendered very intelligible to a young child, and the sooner some general ideas can be communicated upon this science, the better will the various reading-books that are put into his hands be understood. It will be in vain to attempt to teach geography without appropriate maps. The system of *memoriter* instruction is altogether wrong, being unfavourable to the expansion of the mind, and equally so to the cultivation of a taste for knowledge. In teaching geography, the simplest plan is to start from the point where the pupil stands, to mark his native town, the neighbouring villages and cities, then the country in which he resides; to add to this the neighbouring counties, then the more distant, until by degrees England is delineated, and the youthful student is prepared for comprehending the larger divisions of the globe, with its various features of land and water.

After the first hundred words, the pupil will be much assisted by his own observation; he will analyse words, and be led to generalize so as to apply sounds already learned to similar formations that he may meet with. The pronunciation that he has acquired in his earlier years will be now of the greatest importance in enabling him to see at once the distinctions between sounds possessing some similarity. The writing exercise, which

accompanies his reading lessons till he reads without hesitation, will show him the difference in words of a somewhat similar form and sound, as *now* and *how*, *noon* and *moon*.

Under ordinary circumstances, in families and in private schools, about a quarter of a year will be found sufficient for the instruction of a child in reading, spelling, (acquired by copying the reading lessons,) and plain writing. Under favourable auspices, where the plan can be brought into full operation, a shorter period may suffice. The characteristics of the proposed method are: —*the education of the ear and voice*, by which a perfect pronunciation may be recognised and produced: *the education of the eye*, by means of which minute objects shall be discovered and discerned, preparatory to its being exercised on types and writing; and the preliminary *education of the mind* on a variety of subjects, by which it may be prepared to enter the wider fields of knowledge, as soon as the teacher has recourse to the assistance of books.

With respect to *writing*, perhaps a few additional remarks may be necessary. We are not advocates for large writing; experience by no means recommends it for young children. It is impossible for them to give the requisite thickness to the down-strokes of a large-hand, and for this reason the middle-hand is preferred, commonly called round-hand. They may soon be taught the *arts* of penmanship, if necessary, but as the smaller hands are those of business and of ordinary use, the acquisition of a large hand occupies time which might be more profitably employed, unless fine writing be required. When the pupil has gone through a few of his first lessons, which have been copied from the writing of his teacher, the printed book containing his

lesson may be placed before him, the lesson being written for him to copy from, as at first: thus his eyes will be directed to the types, as well as to the written hand, and he will insensibly acquire the power of transferring what is expressed in types into writing, without giving his teacher the trouble of first copying it for him from the types into the written hand.

It may be remarked, that some part of the course here recommended is derived from Jacotot. The writer begs to explain that this coincidence is accidental. A short time ago he ascertained, with surprise, that such principles had been discovered, and made public. It was to a train of thought, originating in the study of Dufief's work on the French Language, that the principles here recommended were suggested to the writer. This, and some experience in the work of instruction, in ascertaining the powers of youthful minds and in giving them a direction, have led to the conclusions here detailed.

The applicability of what has been advanced to public instruction, especially to the education of the poor, is an interesting part of the subject. The children of the labouring classes go to school under less favourable circumstances than the children of the middle and higher classes. If they have not had the advantage of infant-school education, it would be well to form them into a preparatory class, before they are taught to read, in which they might be instructed in the names and qualities of objects, by means of pictures and other convenient illustrations. Perhaps such a class might be found useful in all the National and British Schools. In such a class, pronunciation ought to be carefully attended to, and every means taken to

exercise the eye, and to enlarge the understanding. Afterwards, reading may be commenced; the names of objects, animals, plants, furniture, tools, &c., being first conveyed to the pupils. Such columns of words will be found more interesting than the columns of spelling words generally met with in schools. These words will speak to the pupils of things with which they are acquainted, and in which they take some interest. The names will soon be known, and recognised, and written on their slates. A hundred words a day, well learned, will shortly give them a competent knowledge of the language, and the analogies, which they will not fail soon to perceive, will make their future acquisitions more rapid and easy. From the names of things, it will be proper to proceed to their qualities; *a red flower, a white flower, a black hat, a long pencil, a dry slate, a wet day*, &c. After the more common adjectives are exhausted, verbs may be taught; *a man mowing, a horse kicking, the cat catches mice, the horse eats hay, grass, and corn*, &c. Then it will be desirable to proceed to connected lessons, short stories, Scripture narratives, and the various other subjects connected with the work of a general education. Pleasing subjects should be selected, while the power of reading is being acquired. With all the interest which can be given to teaching reading, by means of factitious helps, it will still remain a difficult attainment for a child to make. But many of the evils which have been formerly encountered need be obstacles no longer. By methods somewhat similar to that now submitted to the attention of teachers, children may be made good readers in a few months, even under circumstances not generally considered favourable to the growth and expansion of the infant understanding.

ON THE SPELLING OF WORDS, AND A RATIONAL METHOD OF TEACHING THEIR MEANING.

BY

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(Delivered before the American Institute of Instruction, August, 1830.)

THE subject on which I have been appointed to address you is, I am aware, when compared with many others, of inconsiderable moment. Still, it was thought to be worthy the attention of this association; and, in accepting the invitation of your committee to treat upon it, my duty to them and to you requires that it should receive all the consideration which its intrinsic importance demands.

I shall detain the Institute but for a very short time in this lecture, because its subject is one very simple in its nature, and not fairly admitting that scope which those of a more diversified character might seem to invite.

It is a matter of fact topic, which demands simple statements, rejecting all ornament and amplification. I shall, therefore, be brief, plain, and direct; and not aspiring to offer a single new idea on this branch,—lying at the very threshold of the temple of education,—to those who have ministered any long time at its altar, I shall hope rather to aid those who have been recently invested with its robes.

Experience would perhaps suggest to most minds seeking for improvement a course of teaching not dissimilar to that which I intend to present to you; but to save the time to the young teacher, and to enable him at once to avail himself of the experience of others, that the progress of his pupils may not be retarded while he is acquiring a personal knowledge of his art, cannot, as it appears to me, but be a desideratum.

Correct spelling I shall assume to be *necessary;* 1. because on that, in a degree, depends our understanding of written language; and it would not be difficult to show, that, in a language like ours, derived from so many sources, the very opposite idea from that intended to be conveyed may be expressed by the omission or transposition of a single letter.

2. Although correct spelling is more rare than a thorough acquaintance with the sciences, still every man is a critic in it, and inflicts the penalty of ridicule upon those who transgress its rules.

3. It is important in the education of the young, as it leads to habits of accuracy in other things in which the want of accuracy might be far more fatal to our own interests and happiness. He who is exact and careful in trifling affairs, seldom, if ever, fails to be so in more momentous concerns.

4. The state of literature generally, and especially the estimation in which thorough education is held, may be inferred from the correctness or inaccuracy of the manner of spelling a language.

5. Good spelling is essential to the permanency of a language. By this alone are we able to trace many words to their etymology, without a knowledge of

which,—although we may understand their current use, — we may be entirely ignorant of their signification when originally adopted into our language, and consequently fail to enjoy the authors of past times.

6. It is also important as it respects the effect of our works on nations speaking other languages, both as to the convenience of foreigners in learning the English, and especially as it relates to translations into other languages, in which the author's fame and a nation's improvement may be implicated.

Some men of rare genius have, it is confessed, delighted the world with their sublime conceptions and harmonious numbers, or illuminated it with the results of their philosophical researches, or dazzled it with their metaphysical speculations; though, from neglect in their primary education, they have been very defective in the elements of their native tongue. But this offers no plea for neglecting to acquire a correct orthography. Their mental achievements were not the result of this deficiency; and however the splendour of the works of genius may have obscured or hidden their defects for a time, we are compelled to admit them as defects, and hence to abate some portion of our estimation of the authors.

Having established the utility and necessity of correct spelling, I proceed to point out what I consider the best means of conferring on the young so desirable a benefit.

Being chiefly an exercise of the faculty of memory, it should be one of the first studies undertaken at school; and should be persevered in, with unremit-

ting constancy, till unfailing accuracy crown the labour.

It is a great mistake to permit the higher branches of learning to supersede this, before it be thoroughly acquired; for, if it be not attained in the first few years of school education, the individual will probably remain deficient in it through life.

Numerous as are the innovations in, or, to adopt a more acceptable term, new methods of, teaching the various branches of education, at the present day, I hold those only to be *improvements*, which present the subjects in a more practical form; which will require the least change from the school method to that to be pursued in the business of life.

If, then, we look for a moment at the common mode of teaching spelling; viz., to assign one or more columns of words in a *spelling book* to be 'committed to memory,' and uttered by the voice, letter by letter; we see one entirely at variance with practical instruction, tedious to the pupil, expensive in time to the instructor, and *never to be used in after life;* of course, one that needs reformation, and in relation to which almost any change would be an improvement.

A preferable course would be, to assign a portion in the reading book of each class, to be written on slates to dictation, and subsequently examined by the teacher or monitors, who, after checking any errors that might occur, should return the slates to their respective owners for correction—by the book, or otherwise.

By this method, a whole school may be simultaneously engaged in the exercise, and a hundred pupils, in five distinct classes, may write twenty words each, in

fifteen minutes or less—every class from its respective reading book—the teacher naming the *number* of the class, with its respective word to be written, and passing on to another class; so that, by the time five words have been given out to as many classes, the first of them will be prepared for another word.

And here let me urge upon the teacher the indispensable necessity of a *perfectly distinct* articulation, especially as to the vowel sounds. Without it, the pupil will often misunderstand the word, though several times repeated; and with it, he is able not only to understand the word at its first announcement, but catches from his master that clear enunciation and correct pronunciation which constitute the clearness and efficacy, I may say the great charm, of spoken language. If this be neglected, and the word be uttered in that careless and slovenly manner which we too often hear, even from teachers themselves, no censure should attach to the scholar, how numerous soever may be his errors. For example;—let the word be *disposition;* let it be pronounced, as it is in a majority of cases, *disp'sition* or *dispusition*, and I defy any man to say, at once, which of the five vowels would best supply the doubtful syllable.*

If the school under my own care has made proficiency in anything, it is in this department; and I attribute it not more to the general method of teaching pursued by

* A little work, entitled "Lessons in Enunciation," by William Russell, has recently been published, which presents the current errors in pronunciation and articulation in so distinct a view, as to be highly valuable to teachers and all persons of taste in these branches of elocution. Teachers of reading, especially, would derive important aid from its rules and suggestions.

us, than to the great exactness in the mode of pronouncing, and the invariable rigidness with which a clear and distinct articulation is exacted and enforced.

If the pupil be required, after correcting his failures, to transcribe the words missed, into a book kept for the purpose, he will be less liable to repeat the errors when the same words shall again occur, and will, in time, have made a collection of those that require his greatest care in their application, and which might, in themselves, furnish profitable lessons for review.

In this connexion, I would suggest, that the transcribing of good composition, besides aiding to furnish the mind with various other knowledge, is of essential service in fixing, by habit as well as by memory, correct methods of spelling.

In spelling lessons, at first, the pupils should be required to write every word containing as few as *two* letters; but as they advance, the more difficult words only should be selected. In this selection, the attentive teacher will soon be led by his own experience to perceive, that it is not the *longest* words which scholars are most liable to misspell, but rather those that are common in sound to many others in the language, of a different combination of letters: such, for example, as receive, believe; compeer, cohere, grenadier; the verb *hear* and the adverb *here;* the pronoun *their* and the adverb *there;* a regular noun in the nominative or objective case plural, and the possessive case singular; participles of regular verbs, in which a doubt may exist whether the consonant preceding the final syllable be double or not; as in committed, benefited, &c. Also, in words where *able* is added to *c soft*, as in *peaceable*, and to *g soft*, as in *changeable;* in words beginning with

in and *en*, as inquire, enclose, indorse, entrap; in words ending in *er* and *or*, as instructer, preceptor, visiter, sailor.—Many of these have been thrown into distinct exercises in spelling books, and may, with much advantage, be learned by pupils at a very early age; a recurrence to them, however, as they may be met with in the reading book when used for spelling lessons, will always be found useful. Some of Murray's rules, as given in his book of Exercises, especially the fifth, ninth, and tenth, would afford much aid; although the exceptions are so numerous, as to forbid an implicit reliance upon them.

Besides these *classes* of words, there are many of irregular formation, which are more frequently spelt wrong than right; among these are the following—wagon, pony, balance, saddler, wo, ay (meaning yes), basin, buffalo, expense, absence, melancholy, lily, ennoble, possess, disappointment, recommendation, until, off (adverb), oblige, trousers, separate, too (adverb), college, &c.—To these may be added several proper names of persons, such as Catharine, John, Eleazer, Eleanor, Jesse;—and of States, such as Louisiana, Pennsylvania, Mississippi, &c.

I have said the lessons in spelling should be given from the *reading* book, for the following reasons; 1. most spelling books contain many words which are seldom found in English composition, hard to learn, and almost useless when learned—to the exclusion of simple, common, and consequently useful words.

2. Few spelling books, if any, are adapted to the capacity of very young children; but in general, excepting a few of the first pages in the book, are made up

of long and difficult words, much above the comprehension of the scholar.

3. They are, for the most part, so encumbered with notations for accent, pronunciation, &c., that although the teacher may be aided by them, the pupil is perplexed and embarrassed.

The department of reading books, on the contrary, is very fully supplied with such as would meet the wants of every class of children; especially in their primary instruction. A difficulty, however, exists here, and one, too, of no trifling consideration. The compilers of these reading books spell certain words very differently. We find in some, positive errors; here, an author, whose books is perhaps in the hands of your youngest class, adopts the orthography of Perry; there, is a book used by your next class, which follows Johnson; another takes Walker for his standard; and a fourth varies in some points from all three; while a fifth, professing to follow rigidly the most *fashionable* guide, either from ignorance or carelessness, deviates most widely, in many cases, from his own criterion; besides, spelling the same word variously in different parts of the book.

It is true, an attentive teacher may meet the evil by oral explanation and remark; but while the pupil has the printed guides in his hand, he must inevitably be confused, in many instances, by the inconsistency he discovers. Besides, in numerous cases, instruction in the department of spelling must be entrusted to the elder scholars; in monitorial schools almost wholly so. Hence, very imperfect instruction will be the result.

Among the good reading books, in use with us at the present time, are, the American First Class Book, the National Reader, and the Introduction to the National Reader, all by the same author, who has not only compiled them with very great care and taste, as to the style of the compositions as well as to their moral tendency, but who has given more than ordinary attention to the spelling of the words; so that they form a series for three classes, containing as few variations from the standard assumed—and that the most popular among us at the present day—as can be found in any other three books in the language. In the spelling of some classes of words, which I shall have occasion to advert to hereafter, I should not perhaps adopt the same rule which he has adopted; but as they are few and very distinct in their character, the variations can be easily explained, and remembered by all pupils sufficiently advanced to use these books.

The same gentleman would render the cause of education a service, by continuing his labours, until all classes of pupils, from the oldest to the youngest, should be supplied with books for reading and spelling, from one source—by which a uniform standard might be observed throughout.

The wishes of those teachers who might be unwilling to forego the use of the *spelling* book, could be attained by a series of books, prepared with reference to each particular class; beginning with one containing the alphabet and such simple words as the child himself would naturally understand and use, and advancing, by very gradual steps, in several separate books to the most difficult words in the language.

The words to be spelled might first be embodied in interesting stories, and afterwards arranged in columns, —in the manner of Worcester's Primer,—which, presenting them in two different aspects, would make a more permanent impression on the memory.

Several advantages would arise from this plan; 1. the various books would necessarily be quite small, and a child could entirely master the contents of each before it would be worn out; which is far from being the case with the spelling books now in use. Hence the plan has economy to recommend it.

2. The pupil's advancement would be much more agreeable to himself, and consequently more rapid; as he would *travel in the light*, comprehending all he learned. He would be stimulated to effort, by passing onward from book to book, as he would realize a promotion at every change.

In the use of the spelling books now in our schools, it becomes necessary to *review*—to pass them through several times; and after all, the lessons are not retained, for the pupil becomes tired of the book; he has used it too long; it has been a dull companion to him. He never studies it the second or third time with the same spirit as at the first; whereas, a new book is taken up with an eagerness and freshness that the novelty of it inspires, and produces proportionally increased benefit.

Another advantage will be suggested, when I come to speak of *defining* words, which was a subject connected with that of spelling, assigned to me by your committee.

Were spelling books, such as have now been recommended, once introduced, I am not sure but that the

advantage would lie on their side, even when compared with books exclusively for reading. One superiority they might be made to possess, especially with the younger classes; I mean that which would arise from methodical classification of words. By arranging the lessons analogically, the manner of spelling would be more easily learned, and on the mnemonical principle longer retained, than if taken up promiscuously. Still, I would not have the lessons entirely unaccompanied by exercises from the reading book. And from what book soever or by whatever mode they might be *studied*, the *evidence* of the study should, in all cases, be rendered *in writing*.

On this point I would venture one general remark; which is, that in all branches susceptible of it, the exercises—the results of study—should be presented to the *eye*, as the best organ of communication with the mind. Whatever is acquired through this medium is better retained than when entering through any other. It may be said, *the eye remembers*. It is more *attentive* than the ear. Its objects are not confused. It takes in a single and perfect image of what is placed before it, and transfers the picture to the mind. Hence all illustrations in our teaching, which can possibly be addressed to this accomplished organ, should be so applied.

The mode of performing orthographical exercises now recommended, is not, it will be observed, a mere substitution of a more expeditious and effective method of accomplishing a spelling lesson. It implies the adoption of a different principle of operation from that which generally prevails. It proceeds upon the great principle of calling the mind into action in a

practical and useful way, instead of one which is arbitrary and mechanical. It demands of the pupil, not a mere listless attention, or a transient effort of recollection, but an active exercise of his powers, such as corresponds to the occasions of business in after-life. The senses, even, are employed, and the perceptive power in young minds is so slight and evanescent, that such aid is to them indispensable. Attention and memory are made to keep pace, in such forms of exercise, and it is the dissolution of their natural connexion which, in any case, gives rise to errors in orthography. What is needed in this department of instruction, is, that the pupil have prescribed to him such forms of exercise as shall prevent that mechanical and abstracted attention, which belongs appropriately to a higher stage of his advancement—that in which memory, having become perfectly true and faithful in its office, the power of attention may be safely permitted to glide into a comparatively dormant or unconscious state.

One of the great intellectual benefits of instruction in this department is to keep the mind in wakeful, voluntary, and efficient attention—a result which can be attained only by practical expedients. The usual mode of performing spelling lessons fails entirely in this respect, and indeed much of the pupil's success in it depends on an inactive state of mind, in which all the faculties are merged in an arbitrary flow of memory. Practical methods of instruction, involving the co-operation of our pupils themselves in all that we require as exercises or lessons, have in all cases the recommendation, which, though not always a primary one, is, nevertheless, important in a high degree—I mean

the immediate happiness and cheerful diligence of the young. The prevailing method of managing lessons in spelling is commonly attended with a comparatively dull and languid state of mind, which contributes, along with other things, to render school exercises listless and wearisome. The effect of such states of feeling is to be dreaded, not merely because it is less favourable to immediate improvement, but because it tends to entail on the mind habits which are injurious to its powers, unfavourable to their free and generous development, and at the same time silently destructive of that freshness and vigour of corporeal sensation, which is indispensable to happiness in youth, and to habitual activity in manhood. All exercises in every department of education should, as far as possible, be of an active, and not of a passive nature.

Organization, we have heard, bespeaks a design for action.* This should not be forgotten, even in those employments which are purely mental; and perhaps we should find less injury resulting to health from school education, were school exercises of an active and enlivening nature to an extent which is easily practicable. It is perhaps too true of all the stages of education, from the lowest to the highest, that they are planned with too much reference to a recipient and passive state of the mind; that they presuppose and demand *inaction* as a matter of habit, and thus tend to produce a mental character, which, although it may be of occasional advantage in a given branch of study, is precisely that which is not required in the business of life, nor in those stages of intellectual pursuits, in which the student is required to advance for the purposes of discovery and

* Vide Dr. Warren's Lecture on Physical Education.

invention, carrying with him all his energies in full and constant activity.

I may be pardoned, I hope, this brief digression; for it is of inexpressible moment, that, in the whole course of education, and especially in its elementary departments, and in its operation on the susceptible faculties of early life, we should keep a constant eye on the probable *result* of all our methods, and their influence on mind and character. In the humble routine of the daily exercises of school, there are principles at work on the intellectual habits of the young, which may give a colour or determination to the whole mental being; which may lead to intelligence, moral purity, and happiness for life, or to results of the opposite character, and as lasting in their effects.

The existing diversity in the modes of spelling English words, each defended by high authority, will present to the young teacher—who may be desirous of escaping from the shackles of local custom, and establishing for himself a standard independent of considerations so narrow—much perplexity. Especially when he perceives that fashion is as fickle in this matter as in any other. In this dilemma, I would recommend to him to adopt the style that is *coming up*, rather than that which is *going down*. Johnson's authority is perhaps better than that of any other lexicographer,—but in several classes of words his mode of spelling has had its day and has become obsolete.

Many of the writers of this metropolis and vicinity have adhered to the *k* in the terminations of polysyllables, as in *musick*, *ecclesiastick*, and the like; and to the *u* even in words like *errour*, *terrour*, &c. until,

in this respect, they stand alone, or nearly so. Most of the accomplished writers of our own country and in Great Britain have dropped the *k*, and very many the *u*, in these two classes of words. The best periodicals in both countries have done so; and it is plain to perceive that this mode will eventually prevail to the exclusion of the other. I consider it the *improved* mode, because any method which tends to simplify, without doing violence to etymology or the genius of our language, is a decided improvement.

The letter *s* is also taking the place of *z*, in words having the *z* sound, and so continually is this change going on, that one can hardly decide which is right *to-day* from knowing what was so *yesterday*. The best periodicals incline to a very general use of the *s*, although there are still many exceptions, and—as a foreigner must be led to think—much caprice on the subject. For, what good reason can be offered in defence of the practice of spelling surprise with an *s*, and apprize with a *z*? Some have ventured to drop the *z* altogether, in words of this class, and even in words like organization, to substitute the *s* for that letter.

This fluctuating state of things existing, and there being good reason to believe that the changes enumerated will become general, both as it respects the pronunciation of words and the new mode of spelling them, —why should not we attempt to effect a uniformity at once? Why should not this Association fix for itself and its members some mode of spelling—especially as it regards the classes of doubtful words above alluded to —which we would be willing to use, to teach, and defend? If the mode were a good one, we might hope

to have it generally adopted in our country. And by publishing a cheap manual on the subject, the variations might be easily placed within the reach of all who fee any interest in it.

It seems to me that we could hardly do the com munity so acceptable a service, with so little labour, or make one of the subjects of primary education more simple, with so little inconvenience to ourselves. The public are not tenacious of particular modes of spelling. With few exceptions, no prepossessions exist. They wish for *consistency;* they desire to find the English language the same, wherever written or spoken. They need only a responsible leader in the matter. They ask for some standard—some authority,—and if that standard be respectable, that authority worthy, they are willing to be guided by it.

Who then shall constitute that standard? Are any more naturally so than men of education engaged in the profession of educating others? If teachers are what they ought to be in this distinguished office, they are most competent to decide on the question under consideration. I hope they will decide it for themselves, whether the community at large acquiesce or not in their decision.

I cannot, without injustice, omit to mention, in this place, the name of NOAH WEBSTER;—a man who has devoted more time, labour, and profound research to the English language, than perhaps any other man who ever studied it. Twenty-five years—the most vigorous in mental power, of his whole life—given to an examination into its genius, structure, etymology, and current use among the best-educated persons who speak it,

having stored his mind with a fund of the most valuable information on the subject, invest his opinions with a claim to consideration beyond that of most other men of this or any other age.

The result of his labours is the voluminous and excellent dictionary recently published by him, which, as far at least as any other now known, deserves to be adopted by his countrymen as the standard of orthographical accuracy. For, although many innovations have been admitted into it by him—some of which being peculiarities of his, we could have wished he had suppressed,—yet a large share of them must be deemed positive improvements, and as such we may hope ere long to see them come into general use.*

On the subject of defining the words of our language, my opinion is, that the only effectual method of doing it with young pupils, is, 1st, by oral explanation during a lesson in reading or recitation. And no word should ever be passed over, from the first of a child's reading in sentences, without his comprehending fully and distinctly its meaning. For which reason, I am the more in favour of the kind of books—before alluded to—resembling Worcester's Primer, by which the pupil's interest in the story comes to aid him, and renders the teacher's assistance more seldom necessary. If these

* Since the delivery of this lecture, Mr. J. E. Worcester of Cambridge has given to the public a Dictionary which is better adapted to the wants of the American community in general than any we had before seen. It contains 43,000 words, is very neatly printed, and brought within the compass of 400 pages. It has an appendix containing copious vocabularies of scripture and classical proper names, with their proper accent and pronunciation; and a collection of most of the words of doubtful orthography in our own language. It is admirably calculated for the most advanced pupils in our schools, and is highly worthy of general attention.

stories are illustrated by drawings, the advantage is increased, especially in the first two or three books of the series.

2. When the reading lesson, accompanied by all the necessary explanations, shall have been completed, the pupil should be required to define to the teacher such words from the lesson as may be given to him, and subsequently to write them on a slate for a spelling lesson; if he be directed to write the *meaning* also, so much the better will it be for his progress in the language.

3. The next exercise I should recommend would be a paraphrase of the story, in the pupil's own language, according to his understanding of it; by which the teacher could ascertain whether he had a correct idea of the whole, as well as of individual words, and also furnish a good opportunity for laying the foundation of the scholar's style.

This exercise would, with the aid above suggested, be found a very agreeable one to the pupil, who would, in no long time, be prepared for the use of the dictionary. This might be first put into his hand as soon as he should be able to distinguish synonymes. Until then, for the lesson in question, he had better be without one.

4. The teacher now having marked in the reading lesson such words as he deemed most suitable and useful, the pupil should seek in his dictionary for such as could be substituted for them, without changing the import of the sentence; when he might either write the original words with their synonymes on a slate, or *read* the latter in lieu of the former—incorporating them into the sentence.

This practice, continued for a while, prepares the

scholar for reading with unhesitating fluency the supplied synonyme for the original word, in the same manne that a good linguist translates a language at sight, and looking on a page of French—for example —reads it in correct English.

A sure and satisfactory method of ascertaining that the pupil has acquired the *meaning* of every word along with its *definition*, and to invest him with the highest and most important benefit arising from this exercise, is to require of him to embody every word he is asked to define in a sentence of his own composing. Such exercise, it is hardly necessary to observe, calls into action all the resources of the mind, and produces a readiness of thought which is an invaluable acquirement.

It is not to be expected that the pupil will accomplish all this without many failures and much occasional aid from the instructor, but every step of his progress will tend to make the next more easy, and will, besides giving him a correct understanding of the subject of the lesson before him, lead him to observe those nice shades of difference in words and expressions, without which he can never write his native tongue with purity and precision.

These methods of teaching spelling and defining are not merely theoretical. They are the results of positive experiment, practised under my own superintendence for eight or ten years. And as far as my opportunities have enabled me to compare results with those of other methods of teaching, in these departments, I am satisfied that such as have been recommended,—if not the *only true* ones—are of that practical character without which all methods must be useless, if not worse than useless.

I have said nothing of the practice, once so common, of assigning lessons in spelling and defining from the columns of a dictionary, sweeping through the whole, from the letter A to the last word under Z,—if the pupil continued long enough at school to accomplish it,—for I cannot suppose it to have come down to this day. If it had, however, I should feel impelled to pronounce it one of the most stupid and useless exercises ever introduced into a school—compared with which, the "committing to memory" indiscriminately of all the pages of an almanac would be agreeable, beneficial, and instructive.

To say that it would be impossible to remember the definitions thus abstractly learned would be to assert what must be perfectly obvious to every one. And even if they could be remembered, they would be of little utility; for as the right application of a definition must depend entirely on the situation of the word to be explained and the office it performs in a sentence, the repeating of half a score of meanings as obscure perhaps as the word itself conveys no definite thought, and serves rather to darken than illuminate the mind.

As a book of reference a dictionary is useful; although, it must be confessed that, even with the best, one often finds himself obliged to make his own explanation, in preference to any furnished by the lexicographer; and the teacher or the pupil who relies exclusively on his dictionary—without the exercise of much discretion—for the definition of whatever words he may find in the course of his studies, will not unfrequently fall into very awkward and absurd mistakes.

Experience and common sense must lend their aid—the former to teach us what is practicable; and the

latter, what is appropriate and useful. And the teacher who has the improvement of his pupils and the great interests of education generally at heart, will not content himself with what he has already attained, but be perpetually striving to add to his stock—by however small degrees, and in however insignificant departments—whatever may make him more accomplished in his profession, and consequently more worthy of the charge entrusted to him.

ON TEACHING BY PICTURES.

By G. LONG.

(From the Quarterly Journal of Education, No. XVI.)

We have had our attention directed to this subject by the following statement:—

"I write as you desire, to give you some account of my little nephew, who is now just two years old. He is extremely fond of pictures, and has been in the habit of amusing himself with the wood-cuts in the 'Penny and Saturday Magazines,' and other books within his reach, occasionally asking about what he sees. For several months he has been able to name, and distinguish, by form, every animal, plant, statue, and portrait in the first volume of the Penny Magazine, every thing, in short, but some of the ruins, churches, and buildings, which he passes, saying he does not like them, probably because he does not understand what they are. I think he prefers the heads of celebrated persons, and the animals, to any others, occasionally making remarks (where he has received information) upon the character of the former, and without information on the action of the latter, such as "Dr. Johnson, very rude man; Isaac Newton, not Isaac Walton; Isaac Walton, a fisherman, &c." The last time I saw him, he showed me the engraving after one of the Cartoons, when he pointed out to me by name, first Christ, then Peter, (remarking that he was kneeling with the keys,) and then several other disciples, Matthew, John, James, and Judas; nor was he to be misled by my asking him about the last mentioned first, as he evidently knew and remembered their

faces and attitudes. He distinguishes perfectly between the Portland and Warwick Vases, so that I believe if he were shown either of these vases he would immediately name it. The other day he met with a tea-urn for the first time, and immediately named it from having seen a picture of one in a child's book. I think his knowledge of the plants, statues, and portraits, the most remarkable; of the two latter subjects I suppose there must be nearly forty, and as the style of their execution and their size are so nearly the same, he could have nothing to guide him but his knowledge of their faces. In one case, where the shadow was badly placed, he remarked that he 'had a dirty face.' No pains have been taken to teach him this. All the information which he has received has been in answer to his eager questions; and it may be said, that he has in fact already made some progress in the knowledge of zoology, natural and sacred history, biography, and botany, entirely from the use of pictures."

If we consider how largely pictures contribute at the present day to give impressions to children, and to communicate either knowledge or error, but more frequently the latter, we shall think the subject worth a little consideration.

Next to the impressions produced by real objects, pictures are in early life the fruitful sources of ideas. A child reads a picture long before it reads a book. The mode in which a child gradually acquires the true interpretation of the objects presented to its eyes is not very easy to trace, because the acquisition of this practical knowledge begins with the child's existence. We see, however, that a child, as soon as it has the use of its arms, calls in the aid of another sense to help its im-

pressions of visible objects: every thing that a child sees it wishes to handle; and any object that it can handle is carried to the mouth, where it undergoes a new kind of examination.

The meaning of a picture, even a mere outline, is soon understood by a child when the reality, or something belonging to the same general class as the reality, has been seen: if neither the reality nor anything belonging to the same class has been seen, a picture conveys no meaning to a child, nor indeed to a man. A picture of a thing which is altogether new and unknown, and the thing itself, are at first sight equally unintelligible.

How does a child know that a few lines scratched on a piece of paper are intended to represent some particular object, or some object belonging to a class? We can only answer this by considering what that is by which we know that a picture is a representation of some definite thing, or some thing belonging to a definite class of things. Colour in the first place is not necessary: a man's profile or the figure of an animal may be cut out either in black paper or white paper, and in either case the object may be immediately recognised. Much less is it requisite that every part in the object should have something corresponding to it in the representation. A few strokes arranged in a certain way convey the idea of a man, a bird, or of any class of objects with which we are familiar: a few strokes are sufficient to point out even individuals of a class, if the person who is to judge of the picture is well acquainted with the individual object represented. We often know a person by seeing only a part of him; a glance at part of his face, or a view of his back, is often enough. It is then the form of a thing which

enables us to recognise an object, or its representation; but what is the form, and how much is it? It is not the form of each part, though each part, when accurately represented, tends to confirm our recognition of a thing in which each part is already known to us. This is the way that a naturalist looks at a drawing of any object, or an antiquary at a coin or gem: he tests and examines his first and general impression by a careful inspection of the minuter parts of the object. A single glance enables us to know many representations of objects, whether they be intended to represent any one of a class or some particular one of a class. It is clear, therefore, that the notion of a resemblance is very rapidly produced. The general form of a real object, as presented to the eye, consists in the boundary lines of this object: for instance, the forms of large buildings are often projected on the sky, and at certain times in the twenty-four hours and in certain states of the atmosphere, they show themselves in a surprising angular and distinct form. There is no real difference (as to conveying the general impression) between the boundary lines of objects thus presented to the eye, and other lines drawn in proper positions and proportions on any plane, such as a flat piece of paper. These lines, when drawn in their true positions and proportions, on any plane surface, are as complete a reality as the object itself, and convey as exact an impression as the *general* impression of the real object: it is true, that if we begin to look to minute details, the appearance of a real object and the outline of a picture are not the same thing; but we are speaking of an outline picture, which does no more than present the general character and the most marked or distinctive particular characters

of objects; and for this purpose an outline is all that is wanted. We make these remarks, because we have heard it said that children do not understand outline representations. There may be some children who do not, because there are some unfortunate children who hardly understand anything: but, as a general rule, children do understand outlines, even their own clumsy imitations of men or quadrupeds, which they make to amuse one another with frequently long before they have learned to read and write.

The low rate at which tolerably good copies of most objects can now be procured, owing to improvements in wood-cutting and in the whole machinery connected with printing, renders it an object of great importance to consider how far these improved arts can be made useful in education. Every body will readily admit that accurate representations of many objects are essential to the right understanding of what we read: they are as necessary accompaniments to treatises on many branches of science or art, as maps are when we study geography or history. To children they are a never-failing source of pleasure, and they may be made powerful instruments for the communication of useful knowledge. We will mention a few classes of objects which may be usefully represented in children's books; they are classes about the propriety of which there can be no dispute, provided the representations are correct.

Objects of zoology—such as quadrupeds, birds, fishes, &c.

Objects useful in the mechanical arts, or objects the products of the mechanical arts—such as various kinds of instruments and implements, machines, &c.

Objects historical—such as views of edifices known in

history, views of places associated with historical events, likenesses of distinguished persons; representations of the different forms of the same things at different epochs, such as costume, ships, military weapons, &c.

Other classes of objects may be mentioned, of which representations will be useful and pleasing, such as views of striking scenery in all parts of the world, especially when such localities are connected with historical events. We may here mention a recent publication of this class, which in its scope and design is calculated to give both pleasure and instruction. The Landscape Illustrations of the Bible* contain views of the most remarkable localities in Palestine, accompanied with a short letter-press description and a reference to authorities. As specimens of engraving, the views are more highly finished than would be necessary in any similar work designed to be extensively distribu'ed; though these engravings cannot by any means be called dear. Of the value of such illustrations applied to those countries which have been the scene of many remarkable events, there can hardly be a difference of opinion; and this value is increased when these views are characterized by such striking natural features as those of the mountain-regions of Syria. The value, however, of such illustrations depends altogether on their accuracy; if they do not possess this essential quality, we would rather be without them. In the work just alluded to, the names of the draughtsmen are given, which is as much as we can reasonably expect. There is, however, some suspicion, perhaps often groundless, that the rough sketches of travellers are frequently embellished before they are presented to the public. The reading com-

* Publishing by Mr. Murray, Albemarle Street.

munity, however, is as much to blame for this as any body else: they have not in general sense enough to prefer a true rough sketch to a finished picture which contains details that will not stand the test of criticism. Few publishers now would venture to send out such homely cuts as we see in Niebuhr's Travels, and other good works, and yet many such drawings, though positively ugly, have been found to possess great merit for fidelity.

This style of illustration, which has been applied to the Bible, has also been extended in some recent publications to many of the most remarkable localities in Greece and other countries. Still much remains to be done in this department. We can imagine nothing which would contribute to give so strong a charm and so vivid a reality to many passages in Greek and Latin writers, as a familiarity by good pictures with those remarkable spots where nature still continues to be the best and sometimes is the only trustworthy commentator on the text of the ancient historian.

The Gallery of Portraits, published by the Society for the Diffusion of Useful Knowledge, is one of the best and cheapest attempts to make pictorial illustration contribute both to amusement and instruction. But the value of this series, as every one feels, lies in the real or supposed truth of the original portraits from which the engravings are taken.

Of late years it is surprising how much we have added to our clearer conception of ancient history by improved maps, and by plans and views of the most remarkable sites of antiquity. We think it will not be denied that the classical studies of our youth would gain in distinctness and in attraction by increasing as much

as possible all aids of this kind, which unfortunately, till within a few years back, had fallen almost into disuse. Yet if we look into some of the old editions of the Roman historians, such as Florus, by J. G. Grævius, we see that the commentators of that day did not consider such aids as useless. They give us copies of medals (rudely enough drawn, but still not without their use) which belong to the personages mentioned in the text, or commemorate some great historical event, and confirm the general statement of the historian by the least doubtful of all evidence that we can have. At the present day it is almost needless to observe, with what superior accuracy and at how much less expense such illustrations can be published for the use of schools.

Pictures are useful for the instruction of children, when the objects represented belong to that class of things which are worth knowing, and when the representation of them is strictly correct. What objects are worth representing cannot be determined exactly, for many obvious reasons; but we shall endeavour to approach to a determination by considering some kind of objects which it is not useful to represent. It is not useful to give to children any representations which tend to mislead them, or to deceive the understanding; nor is it useful to give them pictures which tend to excite thoughts and associations that have a bad effect on the moral character. Neither of these two propositions perhaps will be disputed as thus generally laid down: but on the former much difference of opinion may arise, when we come to analyze it, and we shall therefore pass it over now, and make a few remarks on the second proposition, about which there can hardly be any difference of opinion.

No prudent parent would treat his children with the weekly entertainment of "God's Revenge against Murder;" a London publication which contained accounts of notorious offences against human life and representations of the chief circumstances, which were generally some shape of atrocious murder. Such pictures and publications do no harm to a mind already formed by reflection and education; for it turns from them as from any other object the contemplation of which gives no pleasure. But children and the uninstructed, such as servants, who are often children in understanding, feed greedily on such food. If there were no other objection to it, there is this, that it occupies the mind to the exclusion of other and better things; but besides this, it produces a feverish excitement, with indefinite ideas of fear, and makes the mind dwell on acts and associations which it is better to banish from our thoughts as much as we possibly can. Parents are not sufficiently cautious how such edge-tools are handled by children. A short time ago there appeared in the London shop-windows a penny picture of the devil, with a pair of horns, tail, fork, and other suitable appendages, carrying off a number of the leading political characters of the day, in whom, according to the ingenious draughtsman, this personage is supposed to have a peculiar interest. This picture, ridiculous as it was, worked its effect on a child within our knowledge, and caused much misery and some sleepless nights. At present it is difficult to prevent a child from seeing such absurdities, and after all, the mischief is not in most cases of a permanent character, though we are much inclined to think that it sometimes is; but there are parents who unwisely give their children such

trash to feed upon, when there is better food in the market.

Indecent prints are the most demoralizing of all the forms that the imitative arts can take. No parents give such pictures to their children, but they cannot always prevent them from being seen, because they often appear in shop-windows, at least in London. The mischief which such prints cause depends on the age and temperament of the spectator: that they do much harm in many cases is notorious. An efficient system of police might possibly check the appearance of such prints in windows, though the question between the boundary of decency and indecency would be often violently disputed. With such kind of prints, however, we have no further concern here, than merely to say that they, as well as those mentioned just before, belong to one large class, which comprehends all prints of all kinds that tend to fix in the mind either false fears or false desires. By fears and desires that are false we mean, as to the first, fears which are an indefinite apprehension of some evil, but are not fears of that class which tend to determine conduct in the right way; as to the second, we mean such notions of present or future pleasure as are not founded in truth, and are proved by general experience to cause misery and not happiness.

According to these principles we object to many prints, which appear in religious books, such as representations of the torments of the wicked in a future life; for, though it has been declared that the wicked shall be punished, we do not know the precise mode of the punishment, nor can we, without a gross act of folly, attempt to represent such subjects. On these principles we object also to some of the illustrations which appear

in such books as Mant's and D'Oyley's Bible, though they are all taken from pictures of various degrees of excellence. None of these illustrations, however, are so absurd as some which appear in the older Bibles, and in various books of devotion. Our objection to most pictorial illustrations of this class is, that they are bad for children, because they are either not the representation of a truth, or because they attempt to represent something which cannot be represented; whether or not they are good for older people is not now our business to inquire.

The first proposition laid down was that children should not see prints which tend to mislead or deceive the understanding: the rule may be a very good one, but a wide diversity of opinion may arise upon the interpretation of it. In a recent Number of the Journal of Education (No. XIV. p. 246), a set of historical pictures was recommended as a useful means of fixing great historical events in the memory, and it was there remarked, that 'Correctness of costume in such prints, or good taste in the drawing, however desirable if they can be easily obtained, are of very subordinate importance.' From this remark we entirely dissent: to us such a principle appears likely to be productive of so much mischief as to render null whatever good there may be in the rest of the plan. If we were to make a series of historical illustrations of this kind, and introduce various discordances of dress and circumstance, we should associate in a child's mind a number of things that are not true, with a general fact supposed to be historically true: and the amount of error thus implanted in the mind might be much greater than the worth of the historical fact or facts intended to be fixed

there. Most persons who have attended to the history of their own minds will probably be able to refer some of their opinions and prejudices of mature age to no better authority or evidence than that of a picture.

The objection here laid down is one that might be extended by some people to all fiction—to all works of fiction, to all fictitious representations, whether on the stage or in pictures. But our remarks here have reference to children only, nor do we mean to say that even they should be excluded from all pleasures which belong to the class of fiction and imitation. We should all lose much real pleasure if these arts were banished from life, to the dulness and monotony of which they often give a pleasant stimulus and a cheerful variety. As to children, it may be remarked, as it often has been, that they are not so dull as to take all fictions for realities; and that a child, when he reads fables in which animals and even inanimate things act like rational beings, never for a moment supposes that these things are true, while the value of the moral lesson thus conveyed is not diminished by the wrapping in which it is enveloped. We admit, almost in its full extent, the assertion that children are not deceived by fables; but, on the other hand, we think that, as to any moral benefit, if that is the object aimed at in giving lessons in this form, they are just as efficient as a puppet-show, and no more. If they amuse children and do them no harm, that is enough. But the mischief which arises from allowing children to feed their restless curiosity chiefly on fictitious scenes, whether represented in pictures, or exhibited in the shape of novels, or poetry, is perhaps the cause of a large portion of that feebleness of character which is so apparent in our actual society.

There is much difficulty in stating accurately the

question as to the *fictitious* part of pictorial representation, we mean when it is designed to teach children something by it: if it is merely intended to amuse, we have no objection to all the absurdities and humours which we see in some of the common caricatures. The more absurd and laughable such things are, the better. But when pictures are systematically presented to children with the professed view of inculcating facts, (which it must be remembered will often incidentally inculcate opinions also,) we cannot be too careful to let our facts be true in all cases where particular truth can be attained; and in all other cases, we should give to our pictures at least that general truth and that reasonable probability which will bear the test of future examination, when the child is grown up into a man, with the recollections in his head which it is the professed design of the scheme to make permanent.*

* It is designed by this Society to publish a series of prints illustrative of English History. Most of them will be historical scenes, represented, we believe, as far as is practicable, with regard to the conditions which have been here laid down, as necessary to the usefulness of the scheme. Some of the prints will contain views of edifices and places of historical celebrity, together with correct views of armour, dress, and other things that illustrate the subject.

ON TEACHING ARITHMETIC.

By A. DE MORGAN.

(From the Quarterly Journal of Education, No. IX.)

We may say of instructors, that each individual ought to have either his own system or no system at all. And this refers not only to those who live by tuition, but to all parents and guardians; and is said, not in ridicule of the various plans which appear every day, but from a conviction that the manner and degree in which the intellects of children develope themselves are so various, that few general rules are applicable: whence he must cease to be the slave of a system, and become its master, who would undertake the management of an infant mind. Very few can place themselves in such a position, as must be evident to any one who has had to instruct a class of boys who have left the nursery and the preparatory school to enter upon subjects which need a little previously-acquired power of thought. They *then* begin their education, as their parents think, who little guess that the most important part of it is already past, and that they themselves have incurred a greater responsibility than they can ever afterwards lay upon the shoulders of another. If any man who only knew the real meaning of the word *education*, were told that the rising generation of the richer class was mostly *educated* at Oxford and Cambridge, he would very much over-estimate the quantity of bread and milk consumed in those ancient institutions.

We have thought that some reflections on the method of teaching the simplest of all the sciences might be useful to parents, were it only that we might convince them of the difficulty of their undertaking, as well as of ts necessity. Most of the juvenile treatises on this subject rather tell what to do than how to do it; it is only of very late years that such works have appeared as the Lessons on Number, reviewed in the Third Number of this Journal, in which the process is explained, as well as the result of it. We shall, in succeeding articles, make some observations on other branches of mathematics; but for the present we shall confine ourselves to the elementary parts of arithmetic only.

It is a very common notion that this subject is easy; that is, a child is called stupid* who does not receive his first notions of number with facility. This, we are convinced, is a mistake. Were it otherwise, savage nations would acquire a numeration, and a power of using it, at least proportional to their actual wants; which is not the case. Is the mind, by nature, nearer the use of its powers than the body? If not, let parents consider how many efforts are unsuccessfully made before a single articulate sound is produced, and how imperfectly it is done after all; and let them extend the same indulgence, and, if they will, the same admiration, to the rude essays of the thinking faculty, which they are so ready to bestow upon those of the speaking power. Un-

* *Stupid* is the word employed by teachers when *children* do not learn, or, which is the same thing, when teachers do not know how to teach. We have seen often enough in older children, the sluggishness of intellect which may be called stupidity: but we never saw a *stupid* infant. And hence it suggested itself, that possibly something might have intervened; and by some concatenation of ideas, the Eton Grammar suggested itself.

fortunately the two cases are not equally interesting. The first attempts of the infant in arms to pronounce "papa" and "mamma," though as much like one language as another, are received with exultation as the promise of a future Demosthenes; but the subsequent discoveries of the little arithmetician, such as that six and four make thirteen, eight, seven, anything but ten, far from giving visions of the Lucasian or Savilian chairs, are considered tiresome, and are frequently rewarded by charges of stupidity or inattention. In the first case, the child is teaching himself by imitation, and always succeeds; in the second, it is the parent who instructs, and who does not always either succeed or deserve to succeed. Irritated or wearied by this failure, little manifestations of temper often take the place of the gentle tone with which the lesson commenced, by which the child, whose perception of such a change is very acute, is thoroughly cowed and discouraged, and left to believe that the fault was his own, when it really was that of his instructor.

It is not at all unusual to begin by making the infant repeat the words one, two, three, &c., in succession, and this is called teaching him to *count*. Of course this has no more to do with the matter than it would have if one, two, three, &c., were abandoned, and chair, sofa, table, &c., substituted in their place. To some others a little modification of the above process appears preferable; they point their fingers to one object after another, pronouncing in succession the same words. Thus the child attaches to one, two, three, &c., the notion which properly belongs to *first*, *second*, *third*, &c. We have seen an instance in which a child, on being asked the meaning of three, showed that finger which had usually been

the third in his reckoning. In most cases the abstract numbers only are used, and for the most part in connexion with one particular species of object; thus the learner, hearing the numerals, only or mostly in connexion with counters or his fingers, is led to imagine that what he is doing has some connexion with these things which it has not with others. The numbering is also carried too high, even up to thousands or millions, which is injudicious, as it gives the child names only, and not ideas. We should propose the following method:—Let a number of objects of several sorts be procured, say counters, marbles, and beans, and let the numerals never be used except in connexion with one of these; thus the child should never be allowed to say the word "five," except as a part of one of the phrases, "five marbles," "five counters," or "five beans." Let the different collections of each of these be ranged in rows, from one up to five, and let the child proceed through each set separately, beginning with the lowest, and being made to pronounce "one," "two," and "three," in connexion with the name of the objects. So far he may be supposed to know the names of the different collections in the same way as he knows the meaning of the word "table." In this little range let him be restricted, until he can count or reckon everything which can be counted or reckoned by such numbers. And in counting the collection of "three counters," let him use the words "first counter," "second counter," and "third counter" instead of "one," "two," and "three," beginning the reckoning first with one, then with another of the set. Let every possible question in addition or subtraction be proposed, in which no number or result above three is introduced, and let them be palpably solved by means of all the different objects,

When the learner is perfectly familiar with so much, let the same question be proposed upon objects out of sight, such as horses or trees, until no mistake is ever made. Then, and not before, let the abstract numbers "one," &c., be used in the questions; and even then, if any hesitation appears, drop them and proceed, not caring at what stage the child begins to be able to substitute them. Let ample time be given to this first and simple part, and let the lesson stop when any symptom of weariness or inattention is shown. The collections of four and five may be then cautiously introduced, and so on up to ten, but no farther; care being taken never to introduce a new number until the learner is able to make any addition or subtraction within the compass of the previous ones. Questions should also be given in the reverse processes of addition and subtraction; thus, when the learner has ascertained that four and three make seven, he should be made to find out what other two numbers will make seven, what three numbers will make seven, and so on. Again, having found that four taken from seven leaves three, he should consider what other subtractions give three as the remainder. Thus the first great step would be, to count any number not exceeding ten, and to solve any question of addition or subtraction, in which neither the given numbers nor the result exceed ten. To every question of addition the corresponding question of subtraction should be afterwards appended, in order to illustrate the connexion of the two rules; thus, immediately after the question "how many do four and five make?" should be given, "if five be taken from nine, how many are left?" And this should be first perfectly accomplished, whether it be the work of weeks or months.

This being done, the child should be provided with a measure, such as a strip of deal of a foot in length, which he may be told takes its name from being something near the length of a man's foot. With this he may be shown how to measure the various lengths which fall in his way, provided they be under ten feet. The parts of a foot may be neglected, merely noticing them as they occur, in such terms as "five feet and a little more," "nearly six feet," &c., as the case may be. After some practice the inches and half inches may be marked on the ruler, but nothing lower. The child should then be encouraged to guess at various lengths before measuring them. This exercise, which, judiciously managed, would be an amusement, is admirably calculated to give just notions of the relations of space (a thing sadly neglected in modern education), at the same time that it exercises the habit of counting. We would even add to this a pair of scales and some small weights, with which a similar process should be taught. It is notorious to all who have been in the habit of observing children, that the elaborate and splendid toys, which are often put into their hands, cease to interest after an hour or two of use, while the amusement derived from those which require the exercise of any sort of skill is almost inexhaustible. The toys above-mentioned are of this character, and many more might be added. We proceed to numbers higher than ten.

If our system of numeration gave every number its separate name, independently of others, the method already described should be carried on to the furthest extent of which the memory is capable. But as our common language is closely connected with, and expressive of, our well-known system of notation, it is desirable

that the manner in which the names of numbers are taught should have some reference to that method. And the more strictly this is attended to the better, so that the child should never be permitted to use any number higher than ten, unless it be palpably separated into its tens and units. For this we might propose that a larger ball or counter should be used in the place of ten of the smaller ones, so that before the learner knows the words eleven or twelve, he should have been in the habit of seeing the ten smaller balls removed and the larger one substituted in their place, in all the previous questions of addition the result of which is exactly ten. But it would perhaps be preferable to range the ten balls or counters in a small open box, so made as just to hold them all when placed in a row. The number eleven may then be introduced by placing one ball by the side of this box, and so on. The former method of counting, and the questions of addition and subtraction, should be repeated. When the second ten is finished, the balls should be placed in a similar box, and so on. After twenty, the numbers given to be added or subtracted should increase gradually at first. And here we may give an instance, the principle of which may be made of use throughout the whole course.

It is very desirable that mental arithmetic, that is, the solution of questions without pen or paper, should be carried to a much greater extent than is the case at present. In fact, we may say, that, in nine instances out of ten, no attention whatever is paid to it. It happens in many questions, that the process, which is most convenient upon paper, or rather most in accordance with the methods for the solution of complicated cases, is not

by any means the one which should be adopted in a simple question, such as can be worked by the head. The consequence is, that people in the poorer ranks of life, each of whom, in his own way, has occasion for a limited number of arithmetical processes, acquire, as far as their own wants are concerned, a facility in computation which philosophers might envy. We have heard from good authority an anecdote which sets this in a striking point of view. A society of mathematicians was accustomed to meet at dinner previously to commencing the learned discussions of the evening. One day the bill was brought in and handed to the man of science in the chair, that he might declare how much was due from each. Not having pen and ink, he was puzzled, and gave it over to the distinguished mathematician on his right hand, who found himself compelled to pass it to the next, and so on, till it was returned to the president. In this dilemma the matter was referred to the waiter, who, after looking at the bill for a second or two, named the exact sum which was to be paid by each. Now it is probable that the knowledge of each of these *savans* was to that of the waiter what a park of artillery is when compared with the arrow of a savage; but their acquirements, like the former, could not readily and instantaneously be brought to bear upon a trivial object. We should recommend, that up to a later point than that to which we have come, the arithmetic of the child should be all, in a great measure, mental, and also that attention should be paid to instructing him in the most simple method which the case will allow of. Thus, for example, it is expedient that he should be able to add together in his head any

two numbers, each of which is under one hundred. But the shortest method of doing this is, not by adding the units, carrying, if necessary, to the tens, and then adding the tens; but by adding the tens of one number to the whole of the other, and afterwards adding the units. Thus thirty-five would be added to forty-seven, not in the common way, but by first adding thirty to forty-seven, which gives seventy-seven, and adding five to this, thus making eighty-two. This question should therefore be subdivided into two, of each of which copious examples* should be given; the first, to add a number of tens to another number, such as twenty to fifty-six, eighty to seventy-seven; the second, to add a number of units to a given number, such as seven to twenty-nine, four to eighty-three. When each of these is readily done, the combination of the two, as above, may be given. Similar remarks apply to simple subtractions; all the tens should be subtracted first, and then the units. We must again press upon the attention of our readers the remark with which we began, that the degrees of power are so various, that nothing but observation of each particular case can make the teacher aware what quantity of time or labour each step will require on his part, before it is thoroughly understood by the pupil.

In all that has preceded, we have supposed that the child does not know how to read or write, and, consequently, has no notion of the symbols by which we

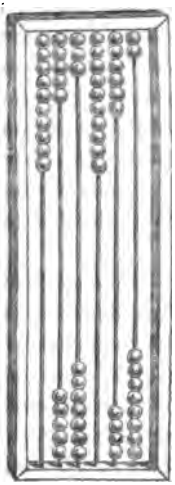
* The parent will be much assisted in his task, if he has by him the excellent 'Lessons on Number as given in a Pestalozzian School, Cheam, Surry. London. J. Taylor, 1831.' This work should be in the hands of every one who teaches the first rudiments of arithmetic.

represent numbers. So far it would be useless to carry him above one hundred, below which there is ample range for the development of all his faculties. He might now proceed to such questions of multiplication as fall within this limit; and here we must observe, that the usual sing-song method of making him repeat, twice two are four, three times two are six, &c., is not by any means so useful as the story of Goody Two-Shoes; first, because it does not interest him so much; secondly, because he does not learn so much from it. It must be recollected that he has no idea of the use of the word "times," as employed to indicate repetition of the same number; that he cannot be capable of doing more than adding two or three small numbers together; and that if he is to learn that which he does not know by means of that which he does know, (which should never be lost sight of,) a multiplication must be to him, what it really ought to be to all, the result of several additions, in each of which the same number is added. These additions he should make for himself, with his counters, or whatever may be employed, and the subject should be introduced to him by some practical and palpable question, which may allow his mind to rest upon familiar ideas. Many a child, who votes "three times four are twelve" a nuisance, would be amused by finding out how many apples papa must have, that he may give John, William, and Henry four a-piece. Variety in the questions would increase the attraction; but, unfortunately, power of illustration is so rare, and mere routine has got such a hold on many instructors, that we would recommend any one who writes for young people on this subject, or rather for their teachers, to

supply them with at least a hundred various readings of the above question. Without it, we fear there are some who would never make so great an original step for themselves as to find out that no material alteration would be made in the preceding question if pears were given instead of apples, though perhaps, if they had gone through the discipline of the previous part of this article with their children, they might be led to suspect it.

The process of division, in simple cases, might follow that of multiplication by means of such questions as the following: "If I have twenty apples, how many can I give a-piece to A, B, C, and D?" (substituting, of course, names of persons for the letters.) This question the child should do with his counters; and should then have the question reversed, as in the case of addition and subtraction. Thus the preceding should be followed by "If I give A, B, C, and D, four counters a-piece, how many shall I give in all?" Care should be taken also, in giving instances of this kind which have remainders, to make them perfectly intelligible, as follows: the child has been required to divide twenty-five counters among four persons; after giving them six a-piece he finds he has one left. He must then be asked, how many more are wanted that he may be able to give the same number to all, or how many must be taken away at the beginning, in order that the same thing may be done. But he should not, at this stage, have any idea of fractions given to him.

The next step, and one of the most important in the whole course, is the communication of our decimal system of notation. This, to a child who can neither read nor write, will appear difficult to be done, but may,



by a very simple mechanical contrivance, be rendered as obvious as any preceding part. A piece of pasteboard or wood, with lines ruled from the top to the bottom, and thus divided into six columns at most, with a number of counters not less than a hundred, would serve the purpose very well. But a toy similar to the abacus, which is sold in the shops for the purpose of teaching the multiplication-table, would be preferable, if it were longer in proportion to its breadth, and had more balls on each wire. The one which we should recommend would be such as is represented in the accompanying diagram.

A wooden frame* is traversed by six wires, on each of which are a number of sliding balls. The length should be at least three times the breadth, and the balls, when placed close together, should not occupy a third of the length. There should be at least thirty on each wire. The reader will easily guess that we mean each ball on the first right-hand wire to stand for one, each on the second for ten, on the third for one hundred, and so on. The question now is to convey the same idea to the child. Perhaps it would be advantageous to increase the size of the balls a little in going to the left; at least those on the various wires should be differently coloured: thus the units might be white, the tens red, &c. The instrument being laid on the table, with all

* These instruments are made, according to the directions here given, by Messrs. Watkins and Hill, Charing Cross.

the balls at the further end of the wires, the instructor should bring down one unit to the nearer end of the right-hand wire, then another, and so on, causing the pupil to name each number as it is formed. When ten have thus been brought down, they should be removed back again, and one of the tens brought down, and afterwards one more unit. The pupil should then be asked what number is there, and if he answers *two*, as is very likely, from his seeing two balls side by side, the ten should be removed back again, and the former ten units brought down again on the right-hand wire. He is then instructed to count the number, and finds eleven. The ten units are then removed again, and the single ten on the second wire substituted in their place. If there is still any hesitation as to the meaning, let the process be entirely re-commenced, and this until the pupil has had occasion to observe repeatedly, that a ball on the second wire is never touched, until there are ten on the first wire. It will be better to avoid verbal explanations at first; the object is to enable the child to lay down on the wires any number with which he is acquainted, and he will do this sooner by actual practice than by any general conception which can be given of the local value of the balls. The step from 10 to 11 once made, no further difficulty will arise before 21 at least; if this happen, the process should be again repeated. No further step should be made until the pupil can readily express any number under 100. Numbers also should be given to him not expressed in their simplest form, but having more than ten on the unit's line; for example, three tens and twenty-two units, which he should be shown how to reduce by taking away collections of ten from the units' wire, and

marking them on the tens. The same number should be varied in different ways, on this principle; and to make it more practicable, we should have recommended a longer instrument, with more balls on each wire, had we not thought it might have been objected to as cumbrous and expensive. The pupil should then be directed to form two different numbers on different parts of the abacus, whose sum is under 100; these he should then add together in his head, as he has already been used to do. The balls of the two numbers should then be placed close together, so as to form one; and the reduction of the units into tens should be made. The first examples, however, should be those in which no such process is necessary, such as the addition of 23 to 55. Examples of subtraction should follow, in which the same rule is observed: for instance, 31 from 59. The number to be taken away should be formed on the lower part of the instrument, and the number which is to be decreased, on the higher. The pupil will immediately be able to bring down from the higher number a similar number of balls to those which compose the lower. At last, an instance should be given in which the borrowing of a ten becomes necessary: for example, the subtraction of 26 from 81. These numbers having been formed, the pupil is directed to take the less from the greater, as he has done before. This he immediately finds to be impossible, on which the teacher removes one of the tens from the higher number, and brings down ten units in its place. The pupil, as has been observed, must be made familiar with this process before he begins this operation. Before proceeding any further, a great number of examples should be given, on practical questions, which can be readily

solved on the abacus; and in no case should the child be allowed to proceed to 100, or beyond, until he is perfectly master of the two left-hand wires.

We have no occasion to enter minutely into the method of proceeding with the other wires; we will, therefore, only observe that they should be added to the instrument, so to speak, one at a time, and whenever a new wire is introduced, all the exercises abovementioned should be carefully repeated. One thing at a time is amply sufficient for the beginner, even when he has already been used to similar things, and it is possible that any inattention or slurring of the process, even at the sixth wire, might introduce confusion among the ideas he has acquired at the previous ones. He may now add three numbers together, for which there are balls sufficient, and may perform combinations of an addition and a subtraction, or of two subtractions.

Multiplication may be performed by repeated additions, which is the only way of introducing it that can be satisfactory. Thus if 117 is to be taken five times, it must be brought down twice, and after the reduction of the tens, again a third time, and so on. If the learner has been previously sufficiently exercised to recollect the multiplication-table as far as ten times ten, he may go through a process more nearly corresponding to that in the books of arithmetic. Previously to this, he must be instructed how to multiply by 10, 100, &c., as follows: the teacher places a simple number on the abacus such as 17, and the same number, in appearance, on the second and third wires, which will stand thus:—

3rd.	2n	1st.
	1	7
1	7	

The pupil, having named these two numbers, has it pointed out to him that each part of the second is ten times the corresponding part of the first, which may be illustrated by actually forming ten sevens and ten tens in succession. When this has been well understood and practised, 17 may be multiplied by 16, by taking it ten times and six times.

Division can only be conveniently done by continual subtraction of the divisor from the dividend; after which the process may be shortened by subtracting it ten times, or one hundred times at once, if possible. So comparatively complex a process may be deferred to the future and more complete course.

If the child show a capacity a little above the common, it may be useful to try him with other systems of notation. For example, a ball on the second wire may stand for five on the first; one on the third for five on the second, and so on. Of these, the *binary* scale, being the most simple, should be most particularly attended to, as illustrating the principle of local value in a remarkable degree, by the number and rapidity of the changes. This, however, should be done with very great caution, as it may confuse the pupil's notions of the decimal or common system, and should never be attempted until he is very well grounded in the latter. At the same time, the abacus may be made useful in the explanation of the common system of weights, measures, and money; for example, the first line on the left hand may represent farthings, the second pence, and so on. It will be found that, by this method, the relations of our weights and measures will be much more quickly learnt than by the common usage of committing tables to memory. Practice will suggest many

other useful applications of this simple contrivance to the attentive teacher, who, unless his experience be very great indeed, will learn more from his pupil than the latter from him.

It remains to connect the methods of the abacus with our symbols of numbers. There is no great reason that this should be deferred until the child can read and write, though it may be supposed that he will be able to do both in the time necessary to pursue the track here pointed out. At any rate, a week's exercise in forming the nine symbols would teach a child of five years old to read and write, as far as arithmetic is concerned. When the forms of these have been well impressed on the memory, as well as their meaning, a paper should be ruled so as to represent the abacus, that is, divided into six columns. Various numbers should then be successively formed upon this instrument, which the child should set down on the ruled paper, putting in each column the number of balls brought down on the corresponding wire of the abacus. The cipher should not be used, or even made known to the pupil at present; the columns which have no balls on the corresponding wires should be left vacant. A simple question of addition should then be taken, and solved in the usual way on the abacus; the pupil at the same time transferring every number and every operation from the instrument to the paper. Some will do this immediately, and it will hardly even be necessary to spend time in explaining the connexion between the wooden and paper instrument. Others will not seize it so quickly; and to some it will be a step of serious magnitude and difficulty. With the latter, the best way will be to pursue the method already employed in ex-

plaining the decimal system, and not to load the subject with verbal explanations; but to continue working examples by both methods simultaneously, until the child sees the thing by himself. If we were writing for those who have had much experience in teaching, we might lean towards the opinion, that explanation should be copiously given; but as our remarks are intended for parents, who, generally speaking, have no very clear notions of elementary arithmetic themselves, still less any acquired facility of illustration, we urge upon them to be very cautious how they venture upon lengthened oral instruction, while the abacus is before them, from which the child may learn more than perhaps they themselves know. And let not even the man of business imagine, that because he can work commercial questions like a clerk, he is therefore qualified to form the basis of this subject in his children's minds, for he may chance to be very much mistaken. The abacus and the paper should be used together until *a little after* the time, when, in the judgment of the instructor, the former might be dispensed with; the latter (still ruled) should then become the sole instrument of computation. In time, the ruled lines should be dispensed with, but still every digit should be kept in its proper place by the eye. When one or two mistakes have been made, from misplacing the numbers, or when, by any other means, the learner perceives the inconvenience of dispensing with the lines, and the necessity of some substitute, the cipher may be introduced, not as a representative of *nothing*, but as a mark set between two digits, which have a vacant column between them, to prevent their being considered as occupying contiguous columns. This may be illustrated

by the blank types which are placed between words in printing. The pupil should then be exercised in writing down numbers which illustrate the use of the cipher, such as 70, 100, 307, 2005, &c. He should be made to observe that ciphers may be prefixed to a number, without altering its value, since they only indicate that preceding columns are left vacant; but that every cipher placed after the number is equivalent to a multiplication by 10. He should also be accustomed to take out any digits of a number, keeping them in their proper columns by ciphers, and naming them until he can assign to any two or more digits of a number their independent value. Thus, in the number 123456, the first three figures are 123,000; the 1, 3, 5, and 6 are 103056, and so on. The pupil is thus, as far as whole numbers are concerned, in a state to begin any rational work on arithmetic.

It is not our intention to detail particularly the method of teaching every rule. The greatest difficulty which boys find in reasoning upon the principles of arithmetic arises from the want of some such previous discipline as we have described. Perhaps the foregoing remarks may enable any instructor to bring the pupil through this first and most important stage; but, in what follows, nothing that we could say would supply the want of an accurate acquaintance with the reasonings on which the various rules are built. The preceding part may, therefore, be considered as addressed to parents in general; but what follows is more particularly for schoolmasters, and others, who instruct older children in classes.

We take it for granted, that children should know the reason of everything they are taught, for which a reason

can be brought within the limits of their capacities. But these are very different in different individuals; and this must be attended to in teaching a number of them together. The rule we should propose is, make them arithmeticians, rational ones if you can; but, at any rate, make them master the processes of computation. There is no reasoning in arithmetic which does not become extremely simple, if the numbers on which it is employed be simple. So much is this the case, that we know they can be comprehended, even by children whose previous education in counting has been very far below the one proposed by us. We should recommend the following detail: the pupils having been formed into classes, and provided with books of arithmetical reasoning, and not merely, as is almost always the case, consisting of nothing but dogmatical rules, the master should explain to them the principle of a rule, as nearly as may be in the words of the book, questioning the pupils as he goes on, to see that they understand every step. When a difficulty arises, the principle on which it depends should, if possible, be separated from the rest, and announced in a distinct form. Copious examples should then be given of it, and on no account should the class be allowed to proceed until it has become familiar to every one. When the demonstration has been thus finished, it should be repeated by one or more of the pupils, with different numbers, first in the words of the book, and then in their own. This is done to help the memory, and the instructor may be nearly sure that no one of his pupils will be able to substitute other *data* in a process of reasoning, unless he understand it. The rule is then to be reduced to its simplest form, which will usually require one or two additional

observations. We are not against learning these rules by heart, provided they be reduced to the utmost degree of conciseness. One or two simple examples should then be worked, first by the master, and then by the pupils; after which the latter should be dismissed to practise what they have learned. The same examples should not now be given to all; those who have shown the greatest facility of comprehension should have the more difficult ones. As soon as a rule has been thus finished, other questions should be given which combine the previous ones with it. Thus, in multiplication, questions should be given in which certain additions and subtractions are necessary to form the multiplicand and multiplier. The commercial rules should go together with the corresponding rules for abstract numbers, as the second differ in no respect from the first in their principles.

We consider arithmetic as a preparation for algebra, and the higher parts of mathematics. With each rule, therefore, we should introduce the algebraical signs and terms which are connected with it, so that, on beginning algebra, the pupil may be familiar with the signs $+ - \times \div =$, &c., and the words second power, third power, &c. The words *square* and *cube* are perhaps objectionable, in their arithmetical sense, though we do not see what harm could arise from using them, if it were distinctly explained that they are incorrect terms, sanctioned by common usage. We are advocates for the use of many words which have gradually glided out of our books; such, for example, as minuend, subtrahend, resolvend, &c. We would even propose to coin *addend*. It must not be imagined that these terms are hard, because they are Latin and polysyllable; the

ideas attached to them are very distinct. Certainly, if simple Saxon equivalent terms could be found, it would be an advantage, with regard to these and many others, particularly *numerator* and *denominator*. We would even carry our extensions of arithmetic as far as the gates of algebra; not giving any reasoning with algebraical symbols, but accustoming the pupil to translate literal expressions into their corresponding arithmetical results in particular cases. Thus, instead of telling the learner to add together 18, 19, and 20, we would ask him, after previous explanation, what $a+b+c$ stands for, where a stands for 18, b for 19, and c for 20? This would give the instructor an unlimited command of examples, while it would prepare the pupil to reason upon general symbols, by accustoming him to their sight. We would not, however, introduce him to the use of exponents, but would write aa for a^2, aaa for a^3, and so on. But here, as everywhere else, the progress should be very gradual from simple to more difficult expressions. It would also tend to interest the student, if problems, of which the algebraical solution is given, were presented to him for the application of arithmetic in particular cases. For example: 'It is found that if one man can finish a job in a days, which another can do in b days, they will do it both together in $\frac{ab}{a+b}$ days. What number of days will both do it in, which the first would finish in 72, and the second in 36 days?' Such instances as these would give views of the nature of general expressions, and the use of reasoning upon them. It would also teach the pupil to look forward to a higher science, and would relieve what the taste and constitution of most lead them

to call the *drudgery* of computation, in the application of which term we heartily join them.

Our limits will not allow of any further observations on this branch of the subject. We propose, however, in the next number to follow up our remarks by some others upon the teaching of fractions, and the higher parts of arithmetic, and, if we have room, the principles of algebra. We shall not quit the subject until we have gone through the elementary branches of mathematics. Whatever we may think of the higher parts, we are sure that these may be made accessible to any capacity, if the discipline be begun at an early age. We would caution those who teach, against measuring the progress of a student by the number of results he has learned, even if he is really ready in their application. If any of the processes we have described should seem a waste of time, let them recollect that, as the case actually stands, many years are passed (as far as this subject is concerned) in learning a few rules very badly. We think that much more might be well learned in the same time than is now learned at all; but if not, and if experience should at last oblige us to decide, that six or seven years are necessary to acquire only the facility of computation necessary for common purposes, it would be a great change for the better if a system could be introduced by which the pupil should think as well as work.

Since this article was printed we have learnt that flattened glass beads are made at Birmingham, at a very cheap rate, which might be strung in tens or hundreds, and supply the place of the boxes in page 5.

ON THE METHOD OF TEACHING FRACTIONAL ARITHMETIC.

By A. DE MORGAN.

(From the Quarterly Journal of Education, No. X.)

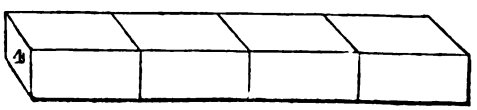
In the preceding article we developed a method of giving the first notions of whole numbers to children. We now proceed to treat the fractional part of arithmetic in the same manner; premising, however, that on no account should this ground be entered until the pupil has the clearest notions, not only of the method of numeration, but of the first four rules in whole numbers. We do not mean that he should be ready at the solution of questions which involve high numbers, that is, at the mechanical part of the subject; but he should at least be competent to perform any addition or subtraction of not more than four figures, any multiplication of two figures by two figures, and division of three figures by two others.

In treating of whole numbers, where it was sufficient that each *one* should be like the others, we used marbles or counters: these should now be entirely rejected; the child will be confused by any attempt to divide them into parts, as the whole and its parts will not then be entirely of the same character. So long as nothing more was necessary than to compare one counter with another, all was well, because each unit entirely resembled every other unit; but if we were now to cut these *ones* into fifths, the fifths would not be of equal dimensions, nor could the child make a *one* out of *any* five fifths. Neither will it be sufficient to take any number of balls,

say six, and calling the whole six *one*, to call each ball *one-sixth*, since this method, though advisable at a later stage, would only introduce confusion at present. It is, therefore, desirable that the unit should now be perfectly simple, and capable of division into parts exactly like itself; for which purpose we shall adopt *length* as the object of measurement. We must also observe that the preliminary notions are *now* to be almost entirely created, while they did exist, though in a rude form, when the pupil first began the study of whole numbers. He has been accustomed to the consideration of several things of the same kind, but rarely to that of the division of one of these objects into *equal* parts. His *half* has, most probably, been merely a division into any two parts whatsoever, and he can accordingly, with perfect consistency, talk of the larger and the smaller half. There is, therefore, more preliminary work, and, as in the case of whole numbers, palpable means of instruction should be adopted. We should recommend the following simple apparatus, making no apology for putting the parent to further expense and trouble: if there be any one of this class who does not think the education of his children the very first object of his life, next to procuring subsistence for them, and arithmetic a most important part of that education, we advise him to laugh at us, and put this paper aside,—we are not writing for him.

Let from twelve to twenty slips of cheap wood be procured, each exactly one foot in length, and about two-tenths of an inch in breadth and thickness. Let the first of these be divided by a line, or a scratch extending all around it, into two equal parts; the second into three equal parts; the third into four equal parts; and so on up to the eleventh, which will be divided into

twelve equal parts. These will be enough at first, but we should further recommend several other slips, divided respectively into 36, 60, 84, 90, 100, 120, and 180 equal parts; which numbers are chosen on account of their having a great number of divisors, considering their magnitude. On the small ends of each rod let the number of parts be marked into which the foot is divided. The following is a representation of the rod in which the foot is divided into quarters :—



A common pair of compasses will also be necessary. It might be thought that one rod would serve the purpose of four, if the sides were differently divided, but this is not the case, as will be seen hereafter; and also that the halves and quarters might be placed on the same rod, and so on; which, however, would be directly against our object, as tending to something like taking for granted one of the simple propositions, of which we wish to furnish a palpable proof.

These rods having been laid side by side, the pupil is called upon to observe that they are all of the same length, being that which he has used and called a foot, if the suggestion of our last article (page 55) has been adopted; if not, that method should be now put in practice previously to going any farther. He should then have his attention drawn to the fact that each foot rod is divided into *equal* parts, that is, that the subdivisions of each rod are equal, but that those on different rods are unequal. This he should ascertain by measurement with the compasses. Again, he is to

observe that *two* equal parts make the whole foot on the first rod, *three* on the second, and so on; and that the number of divisions on each rod is marked on its extremity. Let him call this number the *denominator* of the rod; the meaning of the verb to *denominate* having been previously explained by familiar instances. Let it now be told him that when three equal lines make up a foot, each is called one *third* of a foot, and so on; illustrating this phraseology by questions of the following form:—'Twelve pence make one shilling; what part of a shilling is one penny?' until he is ready with the answers. At last, let the half feet be shown him, and the name of one of the parts required; if he answer one *second* of a foot, inform him that he is right, but that the words 'one half' are usually substituted for 'one second;' if he answers 'one half' of a foot, ask him what it should be, if it were named like the rest; and thus lead him to the phrase 'one second.' Follow the same process with the words 'one quarter' and 'one fourth.'

If any person should think this detail rather minute, we are glad of this opportunity to inform him that it is not every pupil, educated in the ordinary manner, who knows what are the denominators of the fractions one half and one quarter without some reflection, and occasionally a mistake.

The next step should be to establish in the mind of the pupil the order of magnitude in the simple series *one half, one third*, &c. He is not by any means so familiar with the fact that one fourth is less than one third, as he is with its reciprocal, that four are greater than three; and, to accustom him to feel the first as strongly as the second, he must repeat it often, accom-

panied by reference to the simple reasoning which connects the two. He should then be exercised on the different fractions, by such questions as the following:—What is meant by one fourth of a foot?—What is the denominator of this fraction?—Name other fractions which are greater and less.—How many times is one fourth of a foot contained in one, two, three, &c., feet? or, What is two feet in fourths of a foot, &c.? The abstract fraction, *one fourth*, should never be mentioned: it should, at first, always be one fourth of something tangible, and actually present; next of some sensible object not present; and lastly one fourth by itself, only when the pupil is able, without hesitation, to answer all the previous questions. Neither should the abbreviation ¼ be yet introduced. We may lay it down as a general rule that no new symbol should ever make its appearance until the words which it expresses are so well understood that the learner can exemplify them at length without an instant's hesitation.

The next step is to habituate the pupil to the more complex fractions—three fourths, two sevenths, &c. This may be done by taking one of the rods, that which shows fifths, for example, holding it so as to let only two appear, and asking the learner to count them. To the question 'How many are here?' should succeed 'Two of what?' the answer being *two* fifths of a foot; and afterwards 'How many fifths are left?' This process having been continued until the learner can show any fraction whatever whose denominator is within the compass of the rods, he should proceed to simple questions of addition and subtraction where the denominators are the same; such as—How many do two sevenths and three sevenths make?—What remains

when three eighths are taken from five eighths? &c.; care being taken that the sum of the fractions shall not be greater than one foot: these should be done at first upon the rods, and afterwards in the head.

The term *numerator* may now be introduced, by requiring the learner to name some fraction, five sevenths, for instance, and having made him tell the denominator, by pointing out to him that the five is called the numerator, and explaining the term as that which *numbers* or counts how many parts there are in the fraction, while the denominator tells how much of a foot each of the parts is. The pupil should then be required to show different fractions having the same numerators but different denominators, and others having the same denominators but different numerators. Of these pairs he should be made to point out the greater and the less, until he has a clear perception of the following results:—Of two fractions having the same denominator the greater is that which has the greater numerator; and of two fractions having the same numerator the *less* is that which has the *greater* denominator. Of course we are not proposing that he should commit these sentences to memory; and, generally, we would observe that we are addressing ourselves to the teacher, and not to the learner; the teacher, must, therefore, be on his guard against using our expressions when there is any difficulty in them.

The pupil should now be instructed how to measure several lengths, each of which is less than one foot, with all the rods in succession, marking between which subdivisions each length falls. This is intended to give him an opportunity of applying by himself what he has learnt, and will save the teacher some trouble. He should be made to tabulate the results, giving the near-

est subdivision. Thus it might happen that one length may be denoted by one half, as its nearest value when the rod 2 is used, but much more nearly by five-ninths when the rod 9 is used, both being approximations only. In this way various fractions on one rod should be measured as nearly as possible on the others; for example, it should be found between what sevenths one half lies, between what fifths four ninths lies, and so on. These should be determined simply by bringing one rod in contact with another. There are also many properties of fractions which may be seen on the rods, and which will furnish similar exercises. For example, one fifth exceeds one sixth by more than one sixth exceeds one seventh; one third exceeds one sixth by more than one sixth exceeds one ninth, and so on. Again, two thirds is greater than one half; three fourths than two thirds, and so on; and the excess of two thirds above one half is greater than that of three fourths above two thirds. The judgment of the instructor will guide him as to the time during which this exercise should be continued, which should be until the learner has a tolerable notion of the different fractions whose denominators do not exceed ten; we mean, of course, so far as such a notion can be gained by the eye alone.

We would now begin to accustom him to the arithmetical way of expressing fractions, upon which no further explanation can be given except the bare fact that the denominator is written under the numerator, with a line between the two. There is so little analogy between this notation and anything which the child has previously learned, that further elucidation would be impossible. Before he proceeds any further, he should translate all he knows out of the old language into the new; for example, such sentences as—two sevenths and

three sevenths make five sevenths,—which he may now write $\frac{3}{7}$ and $\frac{2}{7}$ make $\frac{5}{7}$; or, if the meaning of the simplest algebraical signs has been previously explained, $\frac{3}{7} + \frac{2}{7} = \frac{5}{7}$: but, if this has not been done, do not let the signs be now introduced at the moment when another totally new thing has just been learned. We have now completed the first great step,—namely, those preliminary ideas of the meaning and notation of fractions, which are indispensable to the right understanding of the succeeding operations.

The learner should now be made to understand the difference between *prime* and *composite* numbers. It should be pointed out to him that there are some numbers, such as 12, which contain other numbers an exact number of times; and others, such as 13, which contain no other number except 1 an exact number* of times. He should then be required to make a list of all the prime numbers under one hundred, and of the *factors* of all those which are not prime. But in doing the latter, every factor so obtained should itself be reduced into its factors, if it have any. Thus, for example, 72 is 9 times 8, of which 9 is 3 times 3, and 8 is made by multiplying 2, 2, and 2. The *prime* factors of 72 are therefore, 3, 3, 2, 2, 2. And it should be pointed out that 72 is divisible by either of these, and also by the product of any of them, as also that the multiplication of all together produces 72, in whatever order the operations may be made. The pupil should then, having resolved two numbers into their prime factors, be shown how to find the greatest common measure of the two,

* Or the child may learn this experimentally, by arranging 12 beads in parcels of *twos*, *threes*, &c.; while he will find that 13 beads cannot be arranged in any equal parcels of more than *one*.

by multiplying together all those factors which are found in both. For instance, 72 is found to have the factors 3, 3, 2, 2, 2; and 90 the following ones 3, 3, 2, 5. The product of the common factors, 3, 3, 2, gives 18, the greatest common measure of 72 and 90; while the remaining factors of 72, viz. 2, 2 which give 4, and of 90, or 5, give the quotients of 72 and 90 when divided by 18. The rule given in the books for finding the greatest common measure should not be introduced here, as we have no occasion for high numbers, and the process above described is more simple. A table should then be formed, extending from 1 to 100, of which the following is a specimen:—

Number.	Factors.	Number.	Factors.
50	2, 5, 5	55	5, 11
51	3, 17	56	2, 2, 2, 7
52	2, 2, 13	57	3, 19
53	———	58	2, 29
54	2, 3, 3, 3	59	———

Let the two rods marked 9 and 6 be presented to the pupil, and let him be required, as in former cases, to express each sixth in ninths. He will find that one-sixth lies between one and two-ninths, but that two-sixths is exactly three-ninths, and also that four-sixths is exactly six-ninths. On referring to the rod 3, it will be found that two-sixths is also one-third, and four-sixths two-thirds. Let this and other results of the same sort be written down; for example,

$\frac{2}{6}$, $\frac{3}{9}$, and $\frac{1}{3}$ are the same,

$\frac{6}{9}$, $\frac{5}{9}$, $\frac{4}{6}$, $\frac{2}{3}$, $\frac{4}{9}$, and $\frac{1}{3}$ are the same.

When a sufficient number of these are collected together, let the pupil be called upon to notice that no two fractions of a foot are the same length, unless the

numerator of the first can be changed into the numerator of the second by exactly the same multiplication or division, which changes the denominator of the first into the denominator of the second. Take, for example, $\frac{2}{3}$, and $\frac{3}{4}$. If the learner be asked how to change 2 into 3, he will probably answer, by adding one. If, however, he be asked to change 2 into 3 by multiplication and division only, he will be at a loss. He must then be shown, which will immediately appear to him, that 2, divided by 2 and multiplied by 3, gives 3, and the same operations performed upon 6, namely, division by 2 and multiplication by 3, gives 9. Or it may be thought preferable to show the coincidence of $\frac{2}{3}$ and $\frac{4}{6}$ by the rods, and afterwards of $\frac{1}{2}$ and $\frac{3}{6}$. Both methods may be employed with advantage. The rods should now be read again and again, until the learner can give all the simpler equivalent fractions in the following way, —one-twelfth; two-twelfths, one-sixth; three-twelfths, one-fourth, &c. This having been done, it should be noticed that the scale of twelfths also contains that of sixths, fourths, thirds, and halves, and the pupil should mark off these several scales on the one which contains them all with chalk, one after the other. It should be remarked, at the same time, that 12 is divisible, without remainder, by 6, 4, 3, and 2.

The same process should be repeated with other rods, and the instructor should be satisfied with directing the attention of the pupil to the facts, in such a way as to enable him to apply the same to another case, without any reasoning at present. Our object now is to convey clear notions of the value of fractions to the eye and to the mind, as a preparatory step to the process of reasoning, by which the results obtained will be afterwards

connected. The preceding exercises should be continued until the pupil can with facility find the scale on which two different sets of fractions can be found, and will look, without hesitation, for the scale of twelfths, to find both the thirds and fourths, and so on. In looking through the different cases, he will find that, though generally the two denominators of two different scales may be multiplied together, in order to find the denominator of the scale which contains both, that there are cases of exception; for example, the sixths and fourths are found on the scale of twelfths, as well as on that of twenty-fourths. This will be the time to make him remark that 6 and 4 have a common multiple less than 24, owing to their having the common measure or factor 2. He should then be exercised in finding the least common multiple, by dividing the two numbers into factors from his table above-mentioned, joining with the factors in the first number all those of the second, which are not common to the two, and multiplying the whole together. Thus, in the former instance, of 72 and 90, made respectively from the factors 3, 3, 2, 2, 2 and 3, 3, 2, 5, the factors 3, 3, 2, are common to both, and there remains from the second, 5, which, multiplied by all in the first, gives 360; so that, as he will then know, the scale of 360th parts is the lowest which exhibits the 72nd and 90th parts. After sufficient exercise on this part of the subject, it may be shown that the halves of the halves are found on the fourths' scale, that the thirds of the fourths are found on the twelfths, and so on. Thus, any question of *multiplication* of fractions, as it is called (though this name should not be used at present), may be solved, provided the product of the denominators does not go beyond the

rods. For example, the learner is asked the following question. What is two-thirds of one-fourth of a foot, or what single fraction of a foot is obtained by dividing the foot into four equal parts, and taking two-thirds of one of those parts? He knows that the thirds and fourths are both found in the scale of twelfths, on which scale he finds the fourth divided into three parts, each of which is a twelfth, so that two-thirds of one-fourth is two-twelfths or one sixth. We are not anxious that the rule should be engraved in the pupil's memory at this period; he cannot fail, after a sufficient number of examples, to stumble upon it; and it would not be judicious to stop the course of his investigations, by any such piece of mechanism, one moment before that time.

With regard to the addition and subtraction of simple fractions, let the pupil now be asked which is the greater of two fractions, in which the answer is not very evident to him at first, for example, two-thirds and three-fourths. He knows that he will find both of these on the scale of twelfths, which he should then be made to divide into thirds and fourths, placing chalk marks of different kinds on each of these divisions. The answer to this question will then be evident, as well as the number of twelfths, by which one exceeds the other. Neither will the sum of two fractions offer any difficulty, when it does not exceed the whole foot. The learner should at this time be called upon to notice, if any difficulty be found in adding, that it is indifferent from what part of the scale any number of fractional parts are taken; for example, that the first and fourth quarters, or the second and third, constitute the half, as well as the first and second.

The most difficult process is the division of one

fraction by another; a name which, like that of multiplication, it would not be wise to introduce at this period. Nevertheless such a question as the following might be asked:—"I bought two-thirds of a foot from a man who had three-quarters to sell; how much of what he had to sell did he sell to me?" This would be a puzzling question, since the learner, though perhaps very willing to admit that more than half of the quantity was sold, would not see any means of determining the precise fraction. Let him then mark out the thirds and fourths on the scale of twelfths, rubbing out afterwards all his marks, except that which distinguishes the quantity to be sold and the part of it sold. Showing only three-fourths of the foot, ask into how many parts it is divided on the scale of twelfths, which is 9, and how many of them are sold, which is 8. The learner will then, if he understands the preceding part, see that eight-ninths of the whole three quarters is sold. This exercise should be often repeated, and also such as are exemplified in the following questions, of which we give the method of solution. If three-fourths of a foot cost a shilling, how much will one-third of the foot cost. The learner may imagine the shilling rolled out into silver wire, of such thickness as to be three-fourths of the foot in length. This may be represented palpably by a bit of string. The question then is, how much of the string is one-third of the foot in length. Removing the string to the scale of twelfths, where both thirds and fourths are found, it will appear that the string extends over nine parts, of which one-third of the foot contains four; so that one-third of the foot costs four-ninths of the shilling. Again, if three-fourths of a shilling be given for the whole foot, how much of the shilling

should be given for two-thirds. Here the whole shilling must be so rolled out, that three-quarters of it shall extend along the whole foot; that is, when applied to the scale of twelfths, there will be twelve parts in three-quarters of the shilling, and four parts in one-quarter; consequently, sixteen parts are the length of the whole shilling. Of these parts two-thirds of the foot contain eight, so that eight-sixteenths, or one-half of the shilling, is the answer. It may here be objected that these questions might be more simply answered by converting the fractions into whole numbers; by saying, in the last example, that four feet must cost three shillings; at which rate two feet would cost three half-shillings, and two-thirds of a foot the third part of this, or one half shilling. This is true; but it must be recollected, that the mere solution of such questions is no part of our object. We want to give the beginner a notion of fractions, as such; not to avoid the difficulties by working only with whole numbers; and to accustom him to the determination of the fraction which one quantity is of another, when both are given in terms of a whole. The rules which he will afterwards demonstrate and work by, will be in effect the simpler process just described; but, for the present, he is to reason upon *fractions*, keeping in mind that they are fractions, and accustoming himself to, instead of avoiding, the real difficulties of the subject. This, with the assistance of the tangible illustrations which we have used, will not be found impracticable.

The pupil now returns to the division of whole numbers, which he left incomplete whenever there was a remainder. Let some simple example be taken, such as the division of 7 feet into 3 equal parts. If each foot

be divided into three parts, one of those parts goes to each third of the 7 feet, so that 7 thirds of one foot, or 2 feet and one-third, is the third of 7 feet. The pupil should repeat and demonstrate similar results until he is familiar with them, care being taken that no confusion arises from the phrase *seven-thirds* of a foot, which must be explained simply as a third of a foot repeated seven times, making more than a whole foot, and not a part taken out of a single foot, as in all the fractions hitherto used. He must then repeat questions on the various rules hitherto obtained, with these fractions greater than unity. He will find no difficulty in converting whole numbers into fractions, such as seven into fourteen halves, twenty-one thirds, &c.

The extension of the meaning of words is made too soon in our works on arithmetic. Among them we may mention multiplying by 1, dividing by 1, using the fraction $\frac{1}{3}$ to stand for 3, and, above all, the terms multiplication and division of one fraction by another. If there be a notion which the pupil is sure to catch from the preceding arithmetic of whole numbers, it is that multiplication increases the multiplicand, and division diminishes the dividend. Nevertheless, on coming to fractions, he finds multiplications which decrease the quantity multiplied, and divisions which increase the quantity divided. The connexion between the different cases may be explained thus. Let the two following questions be given:—If one yard cost 7 pence, how much will 8 yards cost?—If one yard cost $\frac{1}{3}$ of a penny how much will $\frac{1}{3}$ of a yard cost? In the first case the answer is clearly 8 times 7 pence, and the term multiplication may be applied. In the second case $\frac{1}{3}$ of $\frac{1}{3}$ of a penny must be taken, giving, by the process already explained,

$\frac{8}{15}$ of a penny, which is less than $\frac{1}{2}$ of a penny. The rule derived from the second has the name multiplication given to it, incorrectly as far as etymology is concerned, because it is the process which must also be applied where the given numbers are fractions, and real multiplication *would* have been performed, *if* they had been whole numbers. This the pupil should be told at length, and a similar explanation should be given of the term division when the fractional rule has been obtained from solving the following questions:—If 8 yards cost 56 pence, what does one yard cost? If $\frac{5}{8}$ of a yard cost $\frac{3}{4}$ of a penny, what does one yard cost? The learner should also be made to dwell on such expressions as—

$$\frac{23}{\frac{1}{3}}=69 \qquad \frac{\frac{3}{5}}{\frac{7}{8}}=\frac{24}{35} \qquad \frac{7\frac{3}{5}}{\frac{4}{5}}=6$$

It being explained to him that if the numerator contains the denominator an exact number of times, the fraction stands for that number; but that if this be not the case, the numerator, though not an exact number of times the denominator, is a fraction of it, as in the second example, where $\frac{3}{5}$ is $\frac{16}{35}$ of $\frac{7}{8}$, that is, can be made from $\frac{7}{8}$ by cutting the latter into 35 equal parts, and taking 16 of them. He should also be required, as an exercise, to form the first 20 whole numbers from any given fraction by multiplication, division, or both, as the case may be, until he can readily give the steps which will turn any number, whole or fractional, into any other. This is, in truth, the main difficulty of the subject; and should be dwelt upon in proportion to its importance. Thus explanations of the following kind should frequently be given. The question asked is;—what is meant by saying that 1 divided by $\frac{3}{4}$ gives $\frac{4}{3}$? And the answer may

iven in either of the following ways; $\frac{3}{2}$ is made 1 by taking the third part of $\frac{2}{3}$ twice; or 1 does contain $\frac{2}{3}$ as much as once or a whole time, but two-thirds of a time. The second of these explana- should be further developed; beginning with the liar explanations of pounds, shillings, and pence, or inches, and yards, representing the same length in yards and feet, using fractions of either if ne- ry, until the pupil catches the idea that the unit is rary, and that every magnitude may be represented ny number or fraction whatsoever, by properly as- ng the unit.

hen the ordinary rules contained in the books have studied, the pupil, if he be destined to pursue the ematics to any extent, should repeat them on frac- which have fractional numerators and denomina- first by reducing these complex fractions by the already obtained for division, and next without any reduction. For example, in the addition of—

$$\frac{\frac{7}{8}}{\frac{4}{5}} \quad \text{and} \quad \frac{3}{\frac{5}{7}}$$

h, in their simplest forms, are $1\frac{3}{32}$ and $\frac{21}{4}$, giving sum $1\frac{19}{32}$. But if the usual process be followed, the addition, multiplication, &c., of fractions in- l of whole numbers, the process may be performed

$$\frac{\frac{7}{8} \times \frac{7}{8} + 3 \times \frac{4}{5}}{\frac{4}{5} \times \frac{5}{7}} \text{ is } \frac{1\frac{4}{7} + \frac{12}{5}}{\frac{8}{7}} \text{ or } \frac{\frac{204}{35}}{\frac{8}{7}} \text{ or } 25\,\frac{70}{80}$$

h is the same as $1\frac{19}{32}$. This method will furnish a od of verification, which will aid the instructor, and some drudgery.

ith regard to decimal fractions, there is no consider-

able difficulty which has not been already considered, with the exception of the notation. The pupil may be made familiar with the scale of tenths and hundredths, by the palpable illustrations already used, and afterwards with those of thousandths, &c. From the very commencement, he should be made familiar with the conversion of hundredths into tenths, by the constant repetition (with explanation) of the table;—ten hundredths is one-tenth, twenty hundredths is two-tenths, &c., and he should also be exercised in the reduction of a number of hundredths to its *nearest* tenth, by being made to find out, for example, that 37 hundredths lies between 3 tenths and 4 tenths, but nearer to the latter. The same method should be pursued with the hundredths, thousandths, &c. He should then separate a number of thousandths, for example, into its tenths, hundredths, and thousands, such as 486 thousandths into 4 tenths, 8 hundredths, and 6 thousandths, until he is as familiar with this process as with the previous part of the decimal notation. Recourse may then be had to the ruled columns used in the last article, in which a dotted line may be made to separate the column of units from that of tenths. Thus 1 in the first column on the right of the dotted line will stand for one-tenth of a unit; in the second column for one hundredth of a unit. After a time the lines may be rejected, any empty columns after the units column may be filled up with ciphers, and the place of the dotted line preserved by a single point placed between the units and the tenths. This method having been fully explained in the last article, there is no occasion to dwell upon it here. We would recommend, however, that the decimal point should always be placed at the head of the figure, and not, as

is very often done, at the bottom. Thus $6\frac{8}{10}$ should be written 6·8, and not 6.8, or 6,8, the second being reserved to signify six times eight. This will save some confusion when the student comes to the subject of Algebra.

As soon as the meaning of the decimal point has been established, the first exercise should be upon the effect of removing it any number of places to the right or left. Thus the student should write such series as ·00681, ·0681, ·681, 6·81, &c., both in the decimal and common notation, and should be required readily to assign the multiplication or division, which will reduce any one of this series to any other. This is not much attended to in ordinary works on the subject. In demonstrating the rules, the student should reduce the decimal notation to the common fractional one, which removes all difficulty, if he understand the methods for ordinary fractions. The only rule which will cause any embarrassment is that for division. This must be preceded by the rule for turning any common fraction into a decimal, approximately. We would recommend that all rules relative to *circulating* decimals, as they are called, should be entirely omitted. They are of no use in practice, and the theory cannot be understood previously to that of geometric series in general. The reduction of common into decimal fractions may be thus simply taught. It is wished to ascertain how many thousandths of the unit is contained in the seventh. The division of $\frac{1}{7}$ by $\frac{1}{1000}$, with which the student is already familiar, gives $1\frac{000}{7}$ or $142\frac{6}{7}$, or one-seventh contains 142 thousandths and six-sevenths of a thousandth part, or 143 thousandths nearly, that is ·143. The rule should not be applied until the student has worked a large num-

ber of examples in this way. The division of one decimal by another amounts to the reduction of a given fraction to a decimal, as may be shown by the common method. Thus ·014 divided by 6·81 amounts to the reduction of $\frac{14}{6810}$ to a decimal fraction. This method should supersede the common one for some time, until the student can nearly guess in what part of the quotient the decimal point will be found.

As our object is rather to point out the way in which the first principles may be taught, than to give a detailed course of instruction, we shall not enter further upon the subject of arithmetic. We must observe that the want of a familiar acquaintance with common and decimal fractions is the source of nine out of ten of the difficulties which are commonly found in the study of algebra. Still more is this defect the reason why so few are perfectly at their ease in the processes of commercial arithmetic. It seems to be a tacit agreement between elementary writers on this last subject and their readers, that no knowledge of decimal fractions shall be assumed to be possessed by the latter. Thus it is that many cumbrous processes* are introduced, involving pounds, shillings, pence, and farthings, which, if the reader had only the most moderate knowledge of decimal fractions, might be greatly simplified. This will never be remedied, until rules are not only learnt, but understood.

We shall proceed, in our next Article, to the elementary study of Geometry.

* See the "Penny Magazine, vol. ii. No. 52." "Simplifications of Arithmetic, No. 1."

ON THE METHOD OF TEACHING THE ELEMENTS OF GEOMETRY.

By A. DE MORGAN.

(From the Quarterly Journal of Education, No. XI.)

The science of geometry holds, in some respects, the middle rank between arithmetic, in its widest sense, and natural philosophy, or physics. It consists in the discovery and establishment of the properties of space, or of matter, considered only as that which occupies space. As a part of education, it has always been selected as the medium in which the young might be trained to strict and formal reasoning; and though this is the ground on which it is most defensible as a study, the actual knowledge gained by it is not therefore of small importance.

In our preceding articles, on the Teaching of Arithmetic, we could reasonably suppose that the subject was capable of being so treated, that any parent might enable himself to instruct his own children. Here this is not the case; it would require a treatise to develop our method, so that a grown person, ignorant of geometry, might undertake the task of teaching by it. We suppose a knowledge of at least six books of Euclid, and shall, therefore, content ourselves with merely indicating many things, as perfectly well known to the reader.

We shall consider our present subject under two heads, the first relating to the manner of teaching the terms and the facts of geometry, the second to the method of deducing them from one another by reasoning.

It has not been usual to make this division. Atten-

tion to what is called the rigorous geometrical method has generated an aversion to communicating the truths of geometry in any other form than that in which they have been delivered by Euclid, so that those who have neither time nor capacity to study the strictest books, have always been left without any accurate knowledge of some of the most essential properties of matter, *viz.*, those involved in its form or shape. This has not been the case with the *mechanical* properties; here we have popular works in abundance, which do not refuse to exhibit the phenomena of a screw, because the reader cannot connect it geometrically with the inclined plane, or to talk of the various laws of mechanics, because that universal recipient, the principle of virtual velocities, is above the capacity of a beginner. We would not, however, be understood to depreciate the reasoning or to deny its utility in the smallest degree; we only say, that one who is never likely to reason upon them is better off with a knowledge of the facts than with nothing at all, and that with children a preparatory course of experimental geometry is the best introduction to the severer study.

An editor of Euclid, in the last century*, who deserved credit for a careful edition of the *whole* of the Elements, in criticising Clairaut for his avowed departure from the strictness of the Grecian model, makes the following remarks, which though not without their force, when directed against experimental geometry as an ultimate course of study, lose their ironical character and become serious earnest, when applied to the same as a preparatory method.

* Elements of Euclid, with Dissertations, &c., by James Williamson, M.A., Fellow of Hertford College, Oxford. Clarendon Press, 1781.

"Elements of geometry carefully weeded of every proposition tending to demonstrate another; all lying so handy that you may pick and choose without ceremony. *This is useful in fortification;* you cannot play at billiards without this. You only look through a *telescope* like a *Hottentot* until this proposition is read, with many such powerful strokes of rhetoric to the same purpose. And upon such terms, and with such inducements, who would not be a *mathematician?* Who would go to work with all that *apparatus* which I have described as necessary for understanding Euclid, when he has only to take a pleasant walk with *Clairaut* upon the flowery banks of some delightful river, and there see, with his own eyes, that he must learn to draw a perpendicular before he can tell how broad it is?" &c.

Let the faults of this style be upon their author; he expresses to the letter what we should wish to do with children, not instead of, but previous to, anything else. If the facts were well selected, leaving out those which are only useful in demonstrating others, and not conspicuous for themselves alone; if their truth were made manifest by measurement, and their utility by application, whether to a billiard-table or a bastion, a telescope or the measurement of an inaccessible distance; we may ask in the terms of our quotation, "with such inducements, who would not be a *mathematician?*" that is, what child of moderate powers would not be interested in the announcement, that his separate truths are parts of one chain, and that it may be shown that one follows from another; and who would not desire to follow this chain and acquire a new faculty? The consequence of such a previous discipline would be, that the student would not have to learn a new language at the moment

when he begins an untried exercise of mind; he would study the several parts of a dissected map before he begins to put them together.

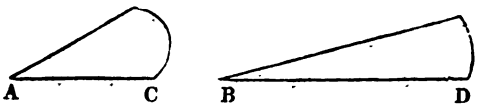
Our preliminary method would depend more upon palpable objects than even in the preceding articles: for, whereas, in arithmetic, the tangible instruments were only helps to the acquirement of a difficult abstract notion,—in geometry, according to our preliminary system, they are the objects whose properties are to be studied.

The first thing to be done is, not to *give* the notions attached to the words point, line, straight line, surface, and plane surface, for they exist already, but to take care that the ideas are attached to the right words. About the term point there is no difficulty; we need hardly warn the instructor not to use the definition of Euclid, but to proceed as follows. Instead of digging a pencil, or the end of a pair of compasses into the paper, and calling the visible surface so produced a point, let all the first points shown be made by drawing two intersecting lines slightly upon the paper with a hard and well-pointed pencil, using the hand only, and not the ruler or compasses. Having made several of these, the learner should be required to find the points in which they cut one another, by showing them with a fine needle. When he can do this, he should be allowed to try to draw a line through two or more points, either straight or curved, or composed of both species. A flat ruler should then be given to him, with which he should be shown how to draw a *straight* line. And here we must observe, that his notion of a straight line will probably be, one which is parallel to the upper and under edges of the paper. Thus he has been told that he

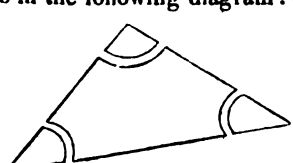
cannot write *straight* without lines, and so on. This misconception must be corrected by drawing lines over the paper in all directions with the same ruler, and applying the term straight to them all. The learner must be made to understand, that the line which comes off the ruler is of the same form in whatever position the ruler may be held, and that a line which is straight in any one position is so in every other; that what he has been accustomed to call a straight line, means a straight line in the same direction as the upper edge of the paper. As to defining a straight line or a plane surface, we think it had better be let alone, unless perhaps the definition ascribed to Plato, or one of his school, be called in as an illustration only, which is, that a straight line is that which can be so held before the eye, that nothing but a point shall be visible; and a plane surface, that which can be made to appear as a straight line in the same manner. But the plane surface may be illustrated by the definition of Euclid. Taking a plane, and also a piece of a cone, cylinder, sphere, or any other which may be at hand, the child may be shown that the edge of the straight ruler may be made to rest entirely upon the first in every direction, which is not true of any of the others. We may remark, that the usual idea of the word plane, is that which ought to be attached to the term level, or horizontal plane,—a misconception similar to that just mentioned with regard to the straight line.

The most serious difficulty in the definitions is that of the word *angle*, because it contains a notion hitherto almost unconsidered. The best substitute is the word *opening*. Several intersecting straight lines may be drawn, making acute, obtuse, and right angles, care

being taken that some of the longest lines shall contain very small angles, and some of the shortest very obtuse angles. Two of these sets being pointed out, the learner is required to say which lines open widest. Most probably he will fix upon those which appear to contain most space, or which have the longest lines. If this happen, cut out the angles from the paper, making the incision opposite to the angle curvilinear, as in the following diagram:—



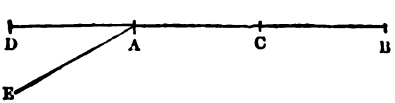
Placing the larger angle undermost, lay the other upon it, so that the angular points B and A may be one over the other, and the line A C, as far as it goes, may lie under B D. This will be best done by using pasteboard, so that the under edges may be placed side by side on the table, the angles being held upright. There will then be no further difficulty as to which two lines open widest, or contain the greatest angle; the notion of equal angles may be established in the same way. For schools, such angles might be cut in wood, by a common carpenter, and also some triangles, with moveable angles, as in the following diagram:—



Before proceeding further, the following propositions should be verified:—The greater angle of a triangle is opposite to the greater side; a triangle, which has two

sides equal has the angles opposite to those sides equal; the exterior angle of a triangle is equal to the sum of the interior and opposite angles. Any one who is acquainted with the subject will see the ease with which these propositions may be submitted to ocular demonstration, by cutting off the angles from paper triangles.

The definition, given by Euclid, of a *right angle*, is the one which we should prefer. Translated into language fit for a child, it is this: the line A makes a right angle with the line B, when it does not lean to either side, or make the opening on one side greater than the other. This may be verified, as in the preceding page, when two lines, perpendicular to one another, have been drawn. There is what we consider an omission in the work of Euclid, though we are aware that it will not be looked upon in this light by many—it is that of angles which are equal to, and greater than, two right angles. It is desirable that the learner should be made to see the distinction between the part of a line and its continuation. For example, the line A B, and its part A C,



contain no angle, or coincide, while A B, and its continuation A D, make a greater opening than any angle considered by Euclid, and one which is evidently two right angles. This may be illustrated by taking a common pair of compasses, and opening them from the position in which the two legs coincide to that in which they form the continuation of one another. For fear, however, of having more to answer for than we intended, we must warn all those who teach, that a sharp pair of

compasses is a dangerous tool, particularly when opened as we have described, and in the hands of children. This instrument should always be handled with the most delicate touch, both on this account, and because no accuracy can ever be obtained by using it roughly. To return to our subject: any other line, A E, should be pointed out as making two openings with A C; one, most commonly known by the name of the angle C A E, and less than two right angles; the other, E A C, greater than two right angles. In illustration, it may be noticed, that the line A E, in our diagram, may revolve into the position A C, either from left to right, or from right to left. In the first case it describes the smaller angle just mentioned; in the second case, the larger. The beauty and generality of Euclid, Book III., prop. 20, are materially diminished by the absence of this convention.

We hold it essential, that the accurate use of the pencil and ruler should be one of the first things taught, in drawing straight lines only. As an exercise of this process, we propose the following verification of a simple proposition:—After the learner has been made to practise drawing straight lines from one given point (see page 97) to another, the lines being as thin as is consistent with their being distinctly seen, let him choose two points, A and B, and draw any number of lines in any directions through A, and two lines only through B, cutting all those which were drawn through A. The pair of lines through B will, therefore, form a four-sided figure with every pair that can be chosen out of those drawn through A, and the opposite corners of every such four-sided figure should be joined, giving the *diagonals* of them all. The diagonals of each figure in-

tersect in one point, giving as many new points as there are four-sided figures, all which points, if the figure be correctly drawn, will lie in the same straight line, which straight line will pass through B. A construction of this sort, in practised hands, is a very good trial of the straightness of a ruler, and such as many of those sold in the shops will not bear.

The preceding example, which contains nothing but the construction of straight lines, will serve as an exercise in that particular operation. The following, taken from Mascheroni's *Géométrie du Compas*, in which the ruler does not appear at all, but only the compasses, will furnish a similar test of accuracy in the use of that instrument. As we are writing for the instructor, and not for the pupil, we do not think it necessary to add the diagram. Take two points, A and B; it is required to find the middle point of the line A B without drawing that line, or using a ruler in any way. With the centre A, and the opening of the compasses A B, describe a circle. On this circle cut off B C, C D, D E, with the same opening of the compasses B A. With the centre B, and the opening B A, describe a circle, and also another with the centre E and opening E B. Let the two last mentioned circles cut one another in P and *p*. On the circle whose centre is B, beginning from the point *p*, take the opening B A three times, cutting off arcs *px*, *xy*, *yz*. With the centre P, and opening P B, describe a circle, from which cut off B M towards A with the opening P *z*. The point M is the bisection of the line A B. Of course, the whole of every circle need not be drawn; the eye will point out how much is necessary. When this construction has been made, the points A B may be carefully joined with

the ruler, and the point M ought to be upon the line A B, and in the middle of it.

To ascertain with what degree of accuracy the compasses are used for the measurement of lines, the simpliest method is the verification of Euclid III. 35, which involves the equality of the products of the segments of lines which cut one another in a circle.

The best definition of parallel lines, for our present purpose, is the appearance they present when drawn. It must be observed, that our object now being to impress isolated facts upon the eyes of the learner, no definition is so good as a figure; and it is quite sufficient that no mistake should be made in applying the common phraseology. Thus, instead of defining parallel lines, as those which would never meet, though ever so far produced, a definition which it is impossible to verify, let parallel lines be drawn, and let the student be required to verify, by measurement, the property that any third line makes equal angles with the two parallels. Thus, having drawn a line at right angles to one, he will find that it is also at right angles to the other; and having drawn several such, he will find that the parts of them intercepted between the parallels are equal. In our next article we shall show that it is almost immaterial what definitions are adopted in this part of the course.

Our object being to convey the knowledge of the facts of geometry, and to form a perfect acquaintance with, and readiness in the use of, its language, we now recommend that the propositions of the first four and the sixth books of Euclid should be enunciated with ocular demonstrations. And here we must observe that some of the more elementary properties have disadvantages in this respect, on account of their simplicity. For

example, with two obviously equal triangles before our eyes, we tell the learner that *if* two sides of the one are respectively equal to two sides of the other, and *if* the included angles are also equal, the triangles will be equal in every respect. In the meanwhile, he will have outstripped us; for seeing that the two triangles are equal, and hearing that, after all our words, we tell him nothing more than he knows, having also no distinct conception of the connexion between the hypothesis and its consequences, he will imagine we might just as well have said at once "Here are two equal triangles." To create the notion which we want to give proceed in the following manner:—Draw a straight line, and on it require the student to construct various triangles, which he will readily do. Continue this until he perfectly comprehends the proposition, "The triangles which have one given side in common are infinite in number." After this, with any radius, and one end of the given line as a centre, describe a circle. By taking any point of this circle as a vertex, the following may be established:—"There is an infinite number of triangles which have one side in common, and besides this a second side of the one equal to a second side of the other." Again, by drawing any other straight line from one extremity of the given line, and taking any point in this as a vertex, it follows that "an infinite number of triangles may be drawn which have one side and one angle in common." Now give the learner an angle formed in wood or pasteboard, so that the directions of two lines containing that angle may be found by drawing the pencil round its edge, and require him to draw two triangles of different sizes, having that angle, and also having a side of one equal to a side of the

other. This will be readily done; after which vary the question, and require him to draw two triangles which shall have that angle, and the *two* containing sides in one respectively equal to those of the other, and which shall have different third sides. This he will find, in a few trials, that he cannot do; and by similar steps, with regard to the remaining angles and the areas, he will come to a perception of the proposition of Euclid in the following somewhat more striking form:—"If two triangles agree in one angle and the two sides which contain it, it is impossible that they should differ in any respect." The same process may be followed in many of the more simple propositions, and it is for the instructor to consider, in every case, whether the proposition is more remarkable in what it affirms, or in what it denies, and to shape the enunciation accordingly. The following propositions, it appears to us, might be simplified by the preceding method:—

1. Axiom 11, which is, in fact, a proposition admitting of demonstration.

2. Book I. Propositions 4, 7, 8, 11, 15, 26, 33.

3. Book III. Propositions 14, 24, 26, 27, 28, 29.

4. Book VI. Propositions 5, 6, 7, 26.

The greater part of the remaining propositions are such as admit of simple ocular demonstration by common measurement. Among those which are of minor importance, or of none at all, we may name,

Book I. Propositions 2, 3, 7, 16 (included in 32), 17 (included in the corollary of 32), 39, 40, 44, 45, 48.

Book II. 7, 8, 9, 10, 11, 14.

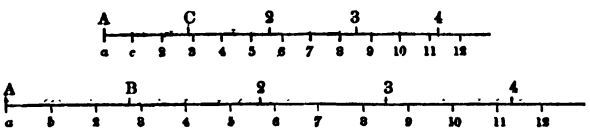
Book IV. 10, 11, 12, 13, 14, 15, 16. The constructions are better made by other methods.

Book VI. 25, 27, 28, 29, 30.

Three most important preliminaries, which it is necessary to treat in a different manner from Euclid, are the definition of proportion, the measure of an angle, and the area of a square or rectangle. With regard to the first, there are difficulties in the way, unless the learner has a tolerably correct notion of arithmetical fractions. Those who have not must omit all propositions of the sixth book; to the rest, the following definition may be given as a first step:—

Take a simple proposition out of the sixth book; the following, for example—that equiangular triangles have their sides proportional. Two equiangular triangles, A B C and *a b c*, are drawn, in which A B of the first is twice or three times, &c., the corresponding side *ab* of the other. By measurement, it will appear that A C is twice or three times, &c., the corresponding side *ac*. The pupil is then exercised in the following way:—If *ac* is contained three times in A C, how often is the *half* of *ac* contained in A C? How often is the third part of *ac* contained in A C? and so on. It will appear that, in the case under consideration, any part of *ac*, the fifth, for example, is contained in A C as often as the fifth part of *ab* is contained in A B; and also that *ac* is contained in twice A C, or three times A C, &c., as often as *ab* is contained in twice A B, three times A B, &c. Now take the same construction, drawing *ab* so as not to be contained an exact number of times in A B. It will still appear from measurement that any part of *ab* is contained as often in A B *with a remainder*, as the same part of *ac* is contained in A C *with a remainder*. For example, if A B contains the fifth part of *ab* seven times and something over, A C will also be found to contain the fifth part of *ac* seven

times with something over. This having been tried sufficiently, let the lines *ac* and A C be placed one upon the other, *a* coinciding with A, and let the same thing be done with *ab* and A B, and let them be carried on by the compasses as in the adjoining diagram, the larger figures above being placed at the end of multiples of the line denoted by large letters, and the smaller figures below denoting the same with respect to the small lettered line. This construction should be made as correctly as possible, and the successive points should be made by a small circle, cutting the line, and not by forcing the compasses into the paper.



It will be observed, on comparing the larger and smaller figures in both lines, that they run in the same order with respect to one another: for example, we find six times *ac* a little greater than twice AC; we also find six times *ab* a little greater than twice AB. Again, three times AB falls between eight times and nine times *ab*; and three times AC also falls between eight times and nine times *ac*. Such arithmetical conclusions as the following should also be brought forward. As twice AC is nearly six times *ac*, *ac* is nearly two-sixths of AC; similarly *ab* is nearly two-sixths of AB. Cases may be taken in which AB and *ab* have a simple common measure, in which cases one of the greater figures will soon fall on the same point as one of the lesser in both lines. The constant similarity of the way in which the greater figures are distributed among the lesser may be

made the ground-work of the definition of proportion: care being taken to show that whenever *ac* is any arithmetical fraction *nearly* of AC, *ab* is nearly the same fraction of AB. The preceding method may be introduced as a way of determining nearly what fraction a line is of another line. We must, however, leave the instructor to his own judgment, as to how far his pupil can bear anything beyond the first and simplest step.

With regard to our second preliminary, the measure of an angle, the proportionality of the circumference of a circle to its radius will be much more easily explained as a fact, than it will be afterwards deduced as an inference. The division of the circle into degrees needs no observation, except that, unless the learner be taught very clearly how to distinguish between the *angle* of one degree, and the *arc* of one degree, he will be liable to some confusion, which will not be mended by his finding it asserted in the books of analysis which he subsequently reads, that when the radius is unity, the arc of one degree, and the angle of one degree, *are the same things*. Instead of a protractor, which is at best but a clumsy instrument, he had better be furnished with a table of chords to every degree, and taught how to use it, taking the radius (which should be 100) off a common scale. It would also be well that he should form this table for himself for every ten degrees, to the same radius, dividing the circle by trial several times, and taking the mean of several of his determinations. This would be a practical illustration of a refined and useful process, and it would tend to fix notions of the value of repeated observations in his mind, when he came to compare his own single and average determinations with a better table. We need hardly instance the use

of the circle in giving accurate conceptions of angles greater than two right angles.

The way of finding the area of a rectangle is, like the doctrine of proportion, perfectly simple, when the sides of the figure can be expressed in whole numbers. There is no need to dwell on the way of showing that a rectangle whose adjacent sides are three and four inches respectively contains 3×4, or 12 square inches. There is some difficulty in passing to the area of the rectangle whose sides are $3\frac{1}{4}$ and $4\frac{2}{3}$ square inches. It must first be made evident, that the addition of any fraction of itself to *one* side only, adds the same fraction of the rectangle to the rectangle, which can be done, in simple instances, by construction. For example, the rectangle whose sides are 3 and 4 inches having the side 3 increased to $3\frac{1}{4}$, that is, having one-twelfth of itself added: the first rectangle, by the division of the side 3 inches into 12 parts, can be divided into 12 such strips as that strip by the addition of which the new rectangle is made. But the first rectangle is 12 square inches, therefore the second is 13 square inches; each of the strips being, though not in form, yet in magnitude, one square inch. This second rectangle being obtained suppose the side 4 inches to increase to $4\frac{2}{3}$ inches, or to have two parts out of 20, or one part out of 10, added to itself. By a process similar to the preceding it may be shown, that the second rectangle, 13 square inches, has also one part out of ten added to itself, or $1\frac{3}{10}$ square inches, giving for the whole $14\frac{3}{10}$ square inches. The sides being $3\frac{1}{4}$ and $4\frac{2}{3}$, or $\frac{13}{4}$ and $\frac{14}{3}$ inches, the arithmetical multiplication of these gives $\frac{182}{12}$ or $\frac{91}{6}$, or $14\frac{3}{10}$, the number of square inches just found: verifying the principle which the foregoing investigation is intended

these, the problems, should be carefully constructed by the student in the manner prescribed by Euclid, with the exception of the inscription of regular figures in a circle in the fourth book, which may be better done by the table of chords already mentioned, or *by trial*, which is a very good exercise in the use of the compasses. Of the second class we have said sufficient: of the third class, the principal propositions are Book I. 35, 43, 47; Book II. 12, 31; Book III. 35, 36. Our limits will hardly allow us to enter at full length into the ocular demonstration of these propositions; we will nevertheless shortly indicate some methods which will be found useful.

Book I. Prop. 32. If the three angles of a triangle be cut off and applied round the same point, the first and last segments of the sides will lie in the same straight line: or let ABC be a triangle, of which the greater angle is C (if the triangle be acute-angled, any angle may be chosen;) draw CD perpendicular to AB, and EF through E and F the middle points of CA and CB. Cut out the triangle, and double CEF over the line EF, so that C and D coincide: if BD and AD be then doubled, so that B and A meet in D, it will be found that the three angles of the triangle are so arranged as to show their equality with two right angles. The demonstrations of the corollaries of this proposition, as given in Euclid, are, or may be made, ocular.

Book I. Prop. 35, 43. The areas which are here called equal cannot be made to coincide; but it is evident in the demonstrations, that the same areas added to both form figures which *can* be made to coincide.

Book I. Prop. 47, may be demonstrated to the eye

in the following way: let ABC be the right-angled triangle, of which the right angle is at B. On AC describe the square AGHC (the letters go *round* the square) turned, so that the triangle ABC may fall *within* it. On AB, the larger side, take AD equal to BC the smaller side, and join DG: on GD take GE equal to BC, and join EH: produce CB to meet EH in F. Cut out the triangles ABC, ADG, GEH, and HFC, and give them with the remaining square EFBD to the learner as a dissected puzzle, which he is to put together into one square, and also into two squares side by side. He will soon find this out, and will see that the single square is that on the hypothenuse, while the two are those on the sides. To verify this proposition in numbers, when he has learnt how to estimate the area of a square, it will be desirable to have a method of finding right-angled triangles whose sides are whole numbers. The following is the most simple: take any two numbers (4 and 7), multiply each by itself (16 and 49); take the sum and difference of the last (65 and 33): these are the hypothenuse and one of the sides of a right-angled triangle: the other side is twice the product of the numbers first chosen (56.)

Book II. 12, 13. The simplest method of verifying these propositions is by means of numbers, and the following rule will find a triangle whose three sides, together with the perpendicular let fall on one side from the opposite angle, and the segments made by that perpendicular, are all whole numbers. Let ABC be the triangle, CD the perpendicular from C on AB, making the segments AD, DB. Choose any even number for the perpendicular CD, which has two even divisors; 8 for example, which is divisible by 2 and 4. Multiply

and divide it by one of the even divisors, 2 for example, giving 16 and 4. Take the half sum and half difference of these, giving 10 and 6. If the first be CB, the second is DB. Proceed in the same way with the second divisor 4, which gives 17 and 15. If the first be AC, the second is AD. The side AB is the sum or difference of AD and DB, that is, 21 or 9, according as we construct CDA and CDB on the same or opposite sides of CD; that is, according as we choose both the angles A and B acute, or one of them obtuse.

When propositions have been verified in the case of whole numbers, verification in some other case should be attempted by measurement and calculation. This will not be so satisfactory, on account of the errors which must arise in estimating fractions of the parts of the scale. Nevertheless, it should be attempted, and the source of error pointed out. It will be found that such numerical application will fix the proposition in the mind.

We shall now proceed to show how the reasoning of geometry may be taught, on the supposition hat the student is perfectly master of the language and facts of at least a large portion of the first four books of Euclid. Every beginner will not be competent to do as much as we have pointed out, but many will; and we are convinced that, by so doing, they will be prepared to look upon the reasoning of Euclid, as what it really is, one of the most admirable results of human thought, and not, as is often the case, to regard it as most unprofitable drudgery. If Euclid be usually ill-understood at first, it is because, with the usual quantity of preparation, one reading of the first six books is no more than is necessary to learn the terms and modes

of speech, and to acquire an indefinite notion that there is something to be learnt, and a sort of *aperçu* of the leading facts. These, we submit, ought to be known beforehand, if the reasoning part is to be made a source of enjoyment. We receive with more satisfaction the information that charcoal and the diamond, two well-known substances imagined to be distinct, are the same, than we should have done, had we only to regard the latter as a new product, arising from the crystallization of the former.

As we have already observed, the more important part of the study of geometry is the habit of reasoning which should be acquired from a science where all is absolute demonstration. If we should be thought to speak rather of what ought to be than of what is, it must be owing to something in the method of teaching which keeps the logic of geometry in the background, and substitutes for it an exercise of less improving character, which may be the mere learning by rote the phraseology of propositions. When we find, as it frequently happens, that by 'A is greater than B, and B is greater than C, *much more then* is A greater than C,' students imagine it to be proved that A is *much greater* than C, we think it evident that their attention has not been directed, in the least degree, to the nature of the connexion which exists between one part of a syllogism and another.

If we were to propose to ten students who, as times go, have read the first four books of Euclid, the following argument,—'Every equilateral triangle is equiangular, and an equiangular triangle may contain less than an acre, therefore an equilateral triangle may contain less than an acre'—we are convinced that nine out of ten would admit the conclusion without scruple, and

that of those nine not two would find out where the fallacy lay, even when the instructor assured them that there was a fallacy. The three propositions are evident truths: the falsehood implied in the little word 'therefore' passes unheeded, because that same word has never been anything more than a mere pleonasm in their previous course of *reasoning*. Finding the demonstrations employed threw no great light upon the matter, they preferred believing the propositions upon the evidence of their senses, which is the way by which most young persons gain the assurance which they have of the truth of the facts asserted. The reasoning was *said* over, that is, the angles and sides of triangles were repeated in endless confusion, mixed with a decent distribution of the words 'because,' 'by hypothesis,' and 'therefore.' To show that this is not a notion of our own, a mere march-of-mind complaint against existing institutions, we will again cite the editor whom we quoted in the former part of this article:—'Once upon a time a certain father, resolving not to be imposed upon by reports, determined to examine into his son's progress in this science, produced the book, and required him to demonstrate a proposition to which he referred: the young man, though unacquainted with the subject, taking courage from his father's ignorance, began very impudently in some such manner as follows:—Because the angle ABC is equal to the angle CBA, therefore the angle DEF is equal to the angle CEF, &c., ringing the changes upon sides and angles, until he had spun out his demonstration to a decent length, and then kept silence in expectation of his father's opinion, who, with a grave and important countenance, remarked, "This is what we call demonstration."'

Geometry, as it is usually studied, does not *teach* the principles of reasoning, but *applies* them, supposed to be already known, to the consideration of the properties of space. There is, therefore, no reason to presume that all who learn geometry will learn to reason correctly, except in so far as such exercises as the propositions of Euclid must be supposed, in some degree at least, to create habits of thinking. They do so to a certain extent, but we need not, therefore, imagine that all is done which can be done. If the pupil pays no attention to the grounds on which the *reasoning* is founded, he will not gain all that ought to be gained. The principles on which geometrical propositions are established belong to the totally distinct and equally simple science of logic; and since geometry without logic would be absurd, it is desirable that the principles of the latter science should be studied with precision and method previously to employing them upon the former.

The forms of logical reasoning have unfortunately fallen into disrepute proportional to the extravagant exaggeration which was formerly made of their value. Considered merely as a part of grammar, the distinction is both useful and interesting between a sentence which is untrue in itself, by its own construction, and one which is true or untrue according to the correctness of the facts stated in it. This branch of grammar is most essential for young persons, because, in the details of it, many of the sources of incorrect reasoning will be discovered and stopped, by a process, which, after all, amounts to little more than pointing out the force of each word in the sentences, 'A is B' and 'A is not B.' It is not absolutely necessary that syllogisms should be formally defined, and the various inaccuracies called by their standard names; and those who think the very

word *logic* smells of the schools, may, if they please, call it 'construction of sentences,' or the 'analysis of the connexion of the clauses of a sentence,' or anything else they please, provided only they teach something that shall give the student of geometry a knowledge of the components, which he will afterwards be required to put together. We proceed to detail the method by which we should propose to do this. The main illustration has been used by Euler, in his letters to a German Princess.

Let a number of simple figures be cut out in paper; three sorts will be sufficient, which may be triangles, squares, and circles. Let these be of larger and smaller sizes, so that several of the smaller may be placed on one of the larger without touching; or it may be considered preferable to cut them out in wood or pasteboard, and use them to form similar figures on paper by drawing a pencil round the edges. It is obvious that every species of simple proposition, which confines itself to asserting or denying one thing of another, in whole or in part, will be similar to one or other of the four following:—

Every point of the circle is in the triangle;

No point of the circle is in the triangle;

Some points of the circle are in the triangle;

Some points of the circle are not in the triangle;

and by interchanging the words circle and triangle, every possible variety of assertion which can be made respecting the two is obtained. Each of these cases can be palpably represented by one of the circles and triangles, so that a proposition which is asserted to follow from any one of them, or from two put together, may be immediately verified or rejected. The instructor then proceeds as follows:—Taking one of the above-

mentioned assertions, for example, the first, 'every point of the circle is in the triangle,' he explains this to mean that the whole circle falls within the outline of the triangle, and that every point of the circle is considered to be the same as that point of the triangle over which it falls. He then distinguishes the different parts of the sentence, which are the *subject* or thing spoken of, the points of the circle—the manner in which they are spoken of, generally or universally, *all* the points of the circle, in opposition to particularly or partially *some* of the points of the circle—the *predicate* or object with which they are connected, 'the points of the triangle,' —the *copula* or species of connexion asserted, which, in this case, is agreement affirmatively expressed, 'every point, &c., *is* one of the points, &c.' The learner is then required to make similar assertions of other things which he knows to be true. If he hesitates he may be assisted with such propositions as the following:— 'Every part of London is in England;'—'Men are liable to error,' that is, 'Every man is, &c.' or 'All men are, &c.'

Now let the extent of this form of proposition be examined. It will not appear evident at first that the *converse* (a term generally misunderstood by beginners) does not follow from it. Students of geometry are mostly in the habit of dealing with propositions, the converses of which are found to be true; all definitions, for example, and such general propositions as this, 'all equilateral triangles are equiangular.' From the frequent occurrence of similar cases, they are led to admit, at the first question, that if every A is B, every B is A, and if asked for the reason of their notion on this point, will bring forward* one or two such examples

* That is to say, the better sort of heads bring forward such

as we have alluded to, thereby giving a practical proof of their belief in another fallacy, that because some converses are true all are so. But when their assertion is put to the test by such a proposition as 'all birds are animals,' they immediately see and laugh at the strange conclusion to which their own principles lead them, viz., that 'all animals are birds;' but still they are here struck, not by the defect in the method of reasoning, but only by the absurdity of the conclusion. This cause of error might be eradicated if the pupil were accustomed to state various propositions, with such circumlocutions as would show the partial manner in which the predicate enters; for example, 'every point of the circle is a point of the triangle,' that is, the whole circle is a *part* of the triangle—among all the points of the triangle will be found all the points of the circle, without denying that there may be points of the triangle which are not points of the circle. 'All men are liable to error,' that is, all *men*, but all animals too may be, and for anything to the contrary contained in the assertion, inanimate beings as well. At the same time, it must be explained, that the converse, though not asserted in the preceding, is not denied; that though 'all equiangular triangles are equilateral' does not *follow* from 'all equilateral triangles are equiangular,' it does not *contradict* it. Hence the necessity of proving Prop. 6. Book I., and its admissibility when proved. In fact, if some such explanation be not adopted, there are several fallacies which are fostered and not eradicated by the study of Euclid.*

The other general forms of assertion may be treated

instances: nine out of ten say "*Of course* if every A is B, every B is A."

* We have seen so many instances of the kind, that we strongly suspect that *Euclid, as studied, does as much harm as good.*

in the same way; and we much wish that it was in our power to recommend to the teacher any work * on which he might model his instructions. As it is, we can only briefly indicate to the followers of the usual routine a road we should be glad to think many have already struck out for themselves.

By writing down the various ways in which it may be expressed, that the circle is or is not, wholly or in part, contained in the triangle, or the triangle in the circle, eight distinct propositions will be obtained, and as many more relative to the circle and square. From these sixteen propositions one may be selected out of each set in sixty-four different ways, so that there are sixty-four preliminary inquiries, each of which may furnish an exercise of reasoning, with at least as much advantage as so many propositions of Euclid would be without them. Each of these should be entered into separately, and examined for the purpose of finding out whether any third proposition respecting the triangle and square, independent of the circle, necessarily follows from them. Then other similar propositions should be formed upon other subjects, and the same analysis applied. As an example, suppose we consider,

Some of the circle is in the square;

None of the triangle is in the circle;

is any part or all of the triangle necessarily in or out of the square, or is the preceding combination equally consistent with all the cases. On drawing the figure, it will be seen that nothing positive follows from the pre-

* This subject will be found, with a little more detail, as applied to geometry, in the Society's treatise on the 'Study and Difficulties of Mathematics,' Chap. XIV. For general logic there is no work in our language at all comparable to that of Dr. Whately.

ceding assertions; that both may exist consistently with the triangle being either wholly or partly in or out of the square, and that the only relation inconsistent with the two preceding is that which places the whole square in the triangle. The only deduction is, that some of the square is not in the triangle. A verbal analysis of this conclusion should now be sought, and it may be found in the following reasoning. The first assertion states, that some of the circle is common to the square; we must, therefore, stand prepared to admit that anything which can be asserted or denied of all the circle as to position, can be asserted or denied of certain points of the square. But by the second assertion it is denied that the triangle and circle have any points in common, consequently there are certain points of the square which are not in the triangle. This same reasoning should now be applied to other instances of the same form, drawn from various subjects, on which we do not think it necessary to dilate. To take an example from among those combinations which are without conclusion, —let some of the square be in the circle, and some of the triangle not in the circle. This will be found by trial to be perfectly consistent with either of the two, the triangle or square being wholly or partially contained in the other. To make this intelligible, the student must be made to understand that the phrases of common conversation are stripped of some of their implied meaning in all strict reasoning, and most particularly in that of geometry. The literal extent of the fact stated is all that is allowed, nor must anything be concluded from one simple proposition. For example, if in ordinary conversation we say that some men have a mechanical genius, it is always implied that the rest of mankind

have not the same, or it is considered as signifying that some men, and some men *only*, have that endowment. And by the word "some" is generally understood the smaller number, in opposition to the greater. None of this is supposed to hold in geometrical reasoning: to assert that some equilateral triangles are equiangular is perfectly correct, though, at the same time, it is true that all equilateral triangles are equiangular. In the same manner, to avoid the necessity of repeating two propositions instead of one, the word "some" is considered as standing for one, as well as for more than one. When, therefore, we say, that "some of the square is in the circle," we mean that one point at least of the square is in the circle, or it may be the *whole* square. But at the same time, though the truth may be more general than the proposition, the conclusion must not be so.

Returning now to the proposition given, the student must be made to see that no two assertions can give us the right to make a third, unless there is something common to both, expressed in strict reasoning, but often only implied in ordinary conversation. In the pair of propositions which we are now considering, namely, that "some of the square is in the circle," and "some of the triangle is not in the circle," we can only say, that a particular part of the triangle (that which is out of the circle) has nothing in common with a particular part of the square (that which is in the circle), which may be true, whether the one is wholly or in part contained in the other. Again, from the propositions, "some of the circle is in the triangle," "some of the circle is in the square," nothing can be drawn, for no deduction can follow, unless there is something in common in the two assertions which may be made to furnish the means of

comparing the two. Here, though the word circle is mentioned in both, it is partially mentioned; the "some parts" of the first may not be the "some parts" of the second; at least it is not so expressed, and is therefore not to be assumed. We should recommend that the sixty-four possible combinations of propositions above alluded to should each be separately considered, and either a deduction drawn, or a reason against drawing one pointed out. This seems to us perfectly necessary, but will not universally appear so. But certainly either the beginner is competent to detect the truth of each instance immediately, in which case a couple of hours will suffice for the whole, or there are some combinations which he does not understand, and then we presume it will be universally admitted that attention should be paid to these. Is so much time to be spent on mere etymology, and accurate combination of singulars with singulars, and plurals with plurals, and this, too, when practice would produce a sufficiently correct habit; and is no attention to be paid to that structure of a sentence on which its truth or falsehood depends, so far as structure can influence one or the other, when all people must reason more or less, and very few do it correctly? It matters little, as we have said before, whether the language of the schools be adopted or not; those who know it can use their discretion, and those who do not may be informed that correct logic is in their power, and if they will adopt the preceding process, must be a necessary result of their experimental researches on the structure of a simple argument. Of course we confine the term logic to its strict meaning, not supposing it to have any reference to the truth or falsehood of assertions themselves, but only to the circumstances

under which two of them give us a right to deduce a third.

The preceding course having been adopted, it remains to put it in practice in following the order of Euclid. The definitions claim the first place; and these should be explained without the ambiguity which commonly attends them. As they usually stand, there is nothing to distinguish them from the propositions which follow. It must be remembered that the perversity of human nature, we suppose, lends beginners a really wonderful tact in choosing the wrong idea, if there be two to choose between, that is, in every possible case. Hence "a parallelogram is a four-sided figure, whose opposite sides are parallel," is too nearly allied in form to "the opposite angles of a parallelogram are equal." The development of the first should be, "let it be agreed to call every four-sided figure whose opposite sides are parallel, by the name of *parallelogram*, so soon as it shall have been shown that such figures can be drawn, and let no other figures be called by that name." The indefinite idea which exists in the mind of a beginner as to the distinction between the component parts of a demonstration, must be well known by all teachers who have any clear ideas on the subject themselves. The first answer, when pressed on any point, is, "Of course it is so," which must always be interpreted to mean that belief outstrips knowledge. But when further questioned, the useful terms "by definition," or "by hypothesis," are applied, according to which of the two hard words first comes into the memory. To avoid this, it would be advisable to draw a perpetual verbal distinction between the application of a definition and the deduction of a consequence: thus, instead of allowing the pupil to

say, "A B is parallel to C D, and A D to B C, *therefore* A B C D is a parallelogram," it might be worded thus, —"A C is parallel, &c., that is A B C D, being a four-sided figure whose opposite sides are parallel, is one of those to which we have agreed to give the name of parallelograms." The mischief arises, in a great measure, from the mixed character of our language, which, instead of coining words as they are wanted, runs to an ancient tongue for the way of expressing the most common ideas. Thus we are not permitted to say lines run "side by side;" the idea must be expressed by the Greek word "parallels, *παράλληλα*:" nor must there be a "parallel-sided figure;" we again have the Greek "parallelogram, *παραλληλόγραμμον*." Hence the fallacy, noticed by Dr. Whately, of supposing that an assertion is proved by repeating it in other words, borrowed from another language, is never out of the mouths of beginners in geometry.

There is no difficulty in the "axioms," except in the Greek name, which is apt to convey a notion of mysterious power, and except in the celebrated axiom by which the properties of parallel lines are established. The pupil who has gone through the preparatory system of logic which we have recommended, can be easily made aware that all strict reasoning consists in the comparison of two simple assertions, and the deduction of a third. It will be evident that there must be some assertions with which to begin, and as these can have no demonstration, they should require none. With regard to the axiom on parallel lines, we may refer the readers to the Journal of Education, vol. I. p. 276, and vol. II. p. 341.

The pupil now comes to the study of the propositions prepared with a knowledge of the facts of which he is about to establish the connexion, and some idea of the technical part of the reasoning with which he is to be made conversant. We would not yet recommend that he should be thrown at once into the chain of propositions. We think he will more clearly see the nature of the step which he is about to make if two known results, of which one is easily deduced from the other, are first connected as a specimen. For example, suppose it known that the angles at the base of an isosceles triangle are equal, and also that the exterior angle of a triangle is equal to the sum of the interior and opposite angles. Suppose it also indisputable, that if A and B be respectively double of C and D, the sum or difference of A and B is double of the sum or difference of C and D. It can thence be immediately proved that the angle at the centre of a circle is double of the angle at the circumference, and that all the angles in the same segment are equal. These we suppose to be also known facts, our object being to impress on the mind of the pupil that one known fact may be connected with another, so that the second, if not known, might have been found out by means of the first. The reasoning will then stand thus:—If it be true that the angles at the base of an isosceles triangle are equal, and also that the exterior angle of a triangle is equal to the sum of the interior and opposite angles, then it follows that the angle at the centre of a circle is double of that at the circumference, &c.; so that the last proposition is proved so soon as the two first shall be proved. A few instances selected for their simplicity, the facts contained in them not being of the most self-evident character, would open the subject in a more striking way, than the (to beginners) most incom-

prehensible superfluity of demonstrating that from the greater of two lines a part can be cut off equal to the less.

This brings us to the postulates, or problems which are treated as axiomatic.* The student should be told that geometrical demonstration consists, not only in employing correct reasoning upon things which are in their own nature self-evident, but in employing as few of the latter as possible. The ruler and compasses should now be given to him, the former not being divided into a scale. The circle having been defined, he is told that the only use allowed to be made of the compasses, is to draw a circle with a given point as a centre, and the distance between that given point and another *given* point as the radius. As an illustration, the instructor draws two lines, and gives the compasses to the pupil, requiring him to cut off from the greater a part equal to the less. The pupil accordingly measures the smaller line, and is about to transfer the compasses to the greater, when the instructor interrupts him, shuts the compasses, and tells him that he is only to draw circles with them, but must not transfer any length, that is, must close them the moment he takes them off the paper. This appears to the student a perfect contradiction: on which the instructor goes through the process of the second and third propositions of the first book—closing the compasses every time they are removed from the paper, and calling the attention of the student to this circumstance each time it occurs. To the question, whether it would not be much more simple to transfer the length in the common way, the answer is, that it would be so in prac-

* This is the definition now usually given of a postulate; but we believe that the arrangement of Euclid has been altered.—See *Penny Cyclopædia*, Article AXIOM.

tice, but not in reasoning: that it is the object of the latter to be content with as little as possible in the form of assumption; and since it can be proved that with the compasses as a means of drawing circles *only*, and an undivided ruler, a line equal to the less can be cut off from the greater, it is considered right not to take the latter for granted, on the principle of dispensing with every assumption which is not absolutely indispensable.

The treatment of the first three propositions in this manner is a most advantageous opening of the subject, because it must give the pupil a clear idea of the very close nature of the reasoning which will be expected from him. What license can be allowed in a science where it is not taken for granted that from the greater of two lines a part can be cut equal to the less? In the common method of *saying* the propositions the very contrary effect is produced: the pupil is not made aware of the limited nature of the assumptions, which render the third proposition a real *consequence*: he imagines that a cumbrous machinery is put in action to prove what has been virtually assumed, and his inference, and a very just inference, is, that anything which comes after might as well have been assumed as proved. Not that he definitely maintains this; but he acts upon it in the degree of attention which he gives to succeeding propositions. The book most in use in this country, by which the elements of geometry are taught, is Simson's Euclid. The only fault that can be found with this translation is its occasional inexpressive and even confined method of rendering the Greek, by too close an adherence to a literal version, and its preserving the unmeaning repetitions of the original, which, however excusable in Euclid, who wrote against objectors, of whom there were many in his day, is useless and

tedious for the purposes of elementary instruction. We may add that it abounds in Hellenicisms, where common English would better have served the purpose; but this is also a fault of the preceding Latin versions. Will it be believed, that there is at least one *Greek* word in the Latin versions and in Simson which is *not* in the original? That which we call an "axiom," which will make our readers give Euclid credit for the particular use of the word "ἀξίωμα," is by him called "κοινὴ ἔννοια," two common words, implying "that which is in the understanding of every man." We should recommend all instructors to get rid of as much Greek as possible, and also of many superfluous phrases. For instance, "if there be two triangles which have two sides of the one equal to two sides of the other, *each to each*, &c." The phrase in italics is not an English idiom, but the literal translation of the Greek ἑκατέρα ἑκατέρᾳ: it conveys no meaning to a person unaccustomed to it, and requires a definition itself. Nor indeed is it easy to express the idea of this equality in a condensed form: the word "respectively" is sometimes employed, but this is not a good term; we have known a pupil assert that AB and CD were "respectfully" equal to EF and GH. Those who do think, frequently imagine we mean that the sum of AB and CD, is equal to that of EF and GH. We should recommend it to be said, "If two triangles have one side of the first equal to one side of the second, and a second side of the first equal to a second side of the second, &c." Again, it is not necessary to repeat the verbal enunciation of a proposition every time it occurs in those which succeed. For instance, if it should happen that two sides and the included angle are respectively equal in two triangles, if the pupil cannot be then trusted to

point out which other parts are equal "each to each," he does not become more fit to do so after muttering "therefore, the bases or third sides are equal, and the other angles are equal, each to each, namely, those to which the equal sides are opposite." We make no apology for insisting upon such matters; they create confusion.

With the knowledge which we have supposed the pupil previously to acquire, he will have no more difficulty in putting a proposition in a syllogistic form, than in understanding the reasoning. We have proposed a method in the article already cited, vol. II. of the Journal of Education, by which, when the pupil has had a little previous training in the syllogistic forms, the strictness of the method may be relaxed*. If to this be added, that no proposition should be passed until the learner can give the demonstration with different letters from those used in the book, or, which will be still better, with numerals instead of letters, and also with the figure drawn in any manner upon the paper, we should think a very sufficient check would be provided against the study of geometry being nothing but an exercise of memory.

The most serious embarrassment in the purely reasoning part is the *reductio ad absurdum*, or indirect demonstration. This form of argument is generally the last to be clearly understood, though it occurs almost on the threshold of the elements. We may find the key to the difficulty in the confined ideas which prevail on the modes of speech there employed. Let the student return to his primitive forms of assertion, and first ascertain which are contradictory, that is, taking

* See also the treatise on the "Study of Mathematics," Cap. XIV., for an example of both methods.

time; but as it is, we can only recommend instructors either to reject this book, and substitute the numerical definition of proportion, or, if they retain the book, to make the numerical definition accompany it. Many will not agree with us in the first recommendation, and we feel, as much as they do, the *hiatus* which would be made in the system by attending to it. But surely it is no compensation to the pupil for an employment of time which brings in no knowledge, (which is his case if he read the fifth book without understanding it,) that his instructor can appreciate the superior completeness and rigour with which all the demonstrations of the sixth book might be given, if the student could only comprehend that which he does not comprehend, namely, the fifth book. We would say to all, teach the fifth book, *if you can;* but we would have all remember that there is an *if.*

We now come to solid geometry, which we may observe is seldom or never taught before plane trigonometry: that is, a purely conventional arrangement has placed a very easy part of the subject after one of much greater difficulty; so that, in fact, access to the easier part is practically forbidden to all who do not first master the harder. The propositions contained in the first and second books are sufficient for the establishment of as much of the eleventh as is necessary for the purposes of spherical trigonometry, that is, of the first elements of astronomy; and the same pains which are taken with the fourth book, which is of very little use, would, if applied to the eleventh, most materially increase the power of the student to comprehend popular works on physics.

The main difficulty is one which is not in the subject,

but in the manner of treating it, namely, the substitution of drawings upon paper instead of the solid objects which are considered. Yet a few pieces of card, or even of the very paper on which the student looks with despair at right angles which are acute, and lengths the relative magnitudes of which have changed places, would be sufficient for the formation of *bonâ fide* prototypes of these perspective anomalies. We should like to know to how many mathematical teachers *per cent.* it has occurred, instead of drawing one plane inclined to another on a paper, to fold the paper itself, and place the two folds at the required angle? Would it give too much trouble? Does the pupil *say* his proposition as well without it?

The eleventh book of Euclid may, in our opinion, be abandoned with advantage in favour of more modern works on solid geometry, particularly that of Legendre, which the English reader will find in Sir David Brewster's Translation. If Euclid be adhered to, the first twenty-three propositions of the eleventh book are sufficient for common purposes. We need hardly repeat, that the ocular demonstrations should be made to precede all others, which cannot, of course, be done without lines which are *really* in different planes.

So long as geometry is made a mere exercise of memory, it is idle to expect that the pupil should make any step for himself in the solution of a problem which is not in the book; and as there are no *rules* by which such a thing can be done, we find accordingly that this is an exercise almost unknown in the geometrical classes of schools. But supposing the pupil to be taught on a rational system, there is nothing to prevent his being tried with easy deductions from time to time, except the

difficulty of procuring the problems in cases where the teacher cannot invent them. The works of Messrs. Bland and Creswell, published at Cambridge, bearing the titles of "Geometrical Problems," and "Deductions from Euclid," contain problems perhaps of too difficult a cast; but from them a judicious teacher might select some which would suit the capacity of his pupils. Previous to this, the pupils should have been accustomed to retrace the steps of the several propositions of Euclid from the end to the beginning, whenever this inversion will not affect the reasoning. This will accustom them to the analytical method, by which alone they can hope to succeed in the solution of problems. But great care must be taken not to introduce sophisms in this reverse process. For example, in the forty-seventh proposition of the first book, it is shown that the square on each side of the right-angled triangles is equal to one of the rectangles into which the square on the hypotenuse is divided. The concluding argument is therefore of this form: A is equal to B, and C is equal to D; therefore, the sum of A and C is equal to the sum of B and D. Assuming the result, that A and C together are equal to B and D together, it cannot, therefore, be assumed that A is equal to B, and C to D, but only that if A be equal to B, C is equal to D. Of all the exercises which we have proposed, this is the one which requires most care on the part of the instructor.

Our readers will see that we have throughout advocated the union of the forms of logic with the reasoning of geometry. We are convinced that it would be advantageous to make the former science systematically a part education. If we except Oxford, there is no place in country where it is still retained; and unfortunately

for the study, it is there more an act of memory about things called moods and figures, than an exercise of reasoning. What we have proposed would tend to improve the indefinite straggling form in which the reasoning of Euclid is presented to the young, and would provide a safeguard against the many misconceptions to which it gives birth. We have said nothing of the other advantages of logic, as they have no relation to the subject of this article.

ON MATHEMATICAL INSTRUCTION.

By A. DE MORGAN.

(From the Quarterly Journal of Education, No. II.)

It is matter of general remark that mathematical studies do not yield that pleasure to the young which the more intelligent and well inclined among them derive from every other part of their education. If the opinions of a number of youths could be collected, at the period when their education is just completed, it would be found that, while nearly all profess to have derived pleasure from their classical pursuits, the very name of mathematics is an emblem of drudgery and annoyance. In saying this we are not speaking of the Universities, in which the choice of studies is so far left to the taste of each individual, that no one can have those feelings against any particular study which arise from the remembrance of its having been forced upon them. Our remarks apply to the hundreds of schools with which the country is studded, where, in fact, the great majority of the educated portion of the community receive the knowledge which entitles them to be thus styled in most of which something is taught under the name of mathematics, bearing much the same likeness to an exercise of reason that a table of logarithms does to Locke on the Understanding. Honourable exceptions are arising from day to day; and those who guide the

remainder will, if they are wise, look out in time, and see with what favourable eyes the world regards any well-regulated attempt to improve the system. Why are so many proprietary schools erected? The reason is, that parents, who have neither time to choose nor knowledge to guide them in the choice of a place of instruction for their children, find it easier to found a school, and make it good, than run the doubtful chance of placing their sons where they may learn nothing to any purpose. We propose in this article to make some remarks on the manner of teaching mathematics as it is, and as it ought to be.

A very erroneous idea prevails with regard to the object in view, in making mathematical studies a part of education. There are places in abundance where book-keeping is the great end of arithmetic, land-surveying and navigation of geometry and trigonometry. In some, a higher notion is cultivated; and in mechanics, astronomy, &c., is placed the ultimate use of such studies. These are all of the highest utility; and were they the sole end of mathematical learning, this last would well deserve to stand high among the branches of knowledge which have advanced civilization; but were this all, it must descend from the rank it holds in education. It is no sufficient argument for the introduction of such pursuits that their practical applications are of the highest utility to the public, and profitable to those who adopt them as a profession. The same holds of law, physic, or architecture, which, nevertheless, find no place among the studies of the young. It is considered enough that the lawyer should commence his legal pursuits when his education in other respects is completed; and so would it be with him whose calling requires a knowledge of mathematics, were it not that an important

end is gained by their cultivation, which is quite independent of their practical utility,—viz., the exercise of the reasoning powers. It is well known, that mathematical demonstration has acquired the name of certain, on account of the simplicity and perfect admissibility of the principles assumed, and the strictly logical nature of the steps by which conclusions are deduced from these principles. The results are also, in many cases, matters of common experience, by the application of which the reasoning may be confirmed. The same species of logic is used in all inquiries after truth; but the broad distinction between mathematics and the rest is, that the data or assumptions of the first are few, undeniable, and known to the student from the beginning; no question can be raised upon them which in any way affects the disposition to admit them, and they require no induction from facts which can be disputed. The student can then perceive more clearly in these studies than in any others what is reasoning and what is hypothesis; he sails along a coast, of which all the points are well laid down, that he may be able to use the experience there gained in future voyages of discovery.

The actual quantity of mathematics acquired by the generality of individuals is therefore of little importance, when compared with the manner in which it has been studied, at least as far as the great end, the improvement of the reasoning powers, is concerned. On looking at the question in all its lights, we might be tempted to say, let every one learn much and well; well, in order that the habits of mind acquired may be such as to act beneficially on other pursuits; much, in order to apply the results to mechanics, astronomy, optics, and many other sciences which can never be completely understood without them. But considering that

the great majority of youths have not time to devote both to the subject and its applications, and cannot therefore hope to be able to attend to the different branches of *mathematical* physics, the next point is to secure a habit of reasoning in preference to the knowledge of a host of results. The latter is preferred in most of our schools, and for this reason, that ninety-nine parents out of a hundred are more likely to ask their sons, How *many* books of Euclid have you read? How *far* have you got on in algebra?—than—In what manner have you studied? Do you understand what you have read? It is common enough for a boy to have acquired arithmetic by rule, six books of Euclid by rote, the greater part of Bonnycastle's Algebra by rule, and plane trigonometry in the same way, with just enough of the use of a table of logarithms to secure him against working any question with correctness. All this, if well learnt, would constitute a respectable portion of mathematical knowledge, and would enable an intelligent pupil, when the day arrives in which he begins to see the value of knowledge, to proceed in his studies without the aid of a teacher. But if we proceed to examine the manner in which this is gained, we shall in far too many cases establish the truth of the following sketch, which we believe to be a fair representation of the manner in which mathematical science was taught in our time, and it is to be feared is still taught to a great majority of those who commence this study.

The child learns from his nurse or his mother our method of representing numbers, by a plan of teaching which makes two symbols such as 16 and 25 nearly as independent of one another in his head as the ideas attached to the words "book" and "steam-engine."

When he arrives at school he is taught to *say* the table of numeration, and then proceeds through a number of rules, that is, directions to put figures together written in a book, with names at the head of them, such as multiplication, division, &c., which, if he understand, it is well, but if not, nobody cares. Some of these rules are so unintelligible, that were it not for an example at length which usually accompanies them, they would be equivalent to as much Hebrew. It is a fact that in some treatises not yet out of date, the inverse rule of three is defined as the rule where "less requires more, and more requires less." As to the reasons for the rules, the pupil cannot trouble his head (to use a common term for that much-avoided operation, thinking) about them, not knowing whether there are any at all, or whether the rules themselves came from the moon, or are a constituent part of that wisdom of our ancestors about which he sometimes hears. Should there be any natural defect in his mind, owing to which he finds it difficult to produce a correct result, knowing neither what he is to do, nor how to do it, there are several approved methods of proceeding. The best of these, unfortunately now somewhat exploded, is a flogging; which works on a principle recommended by physicians, of curing a disorder in a part which cannot be got at, by producing one in another which can. Next to this comes the method of keeping the patient from all recreation until he has done what is required of him, it being considered the same thing in the end, whether he cannot work for want of means, or will not from want of application. It has been suggested to teach the principles involved in the rules, and thus to render the pupil their master instead of their slave; but to this plan, indepen-

dently of its being an innovation, there are grave objections. Many instructors, if placed in the temple of truth, would be obliged to ask, "How shall I teach what I do not know?" Others would say, "All I have to do at present is to look at the pupil's work, and compare it with the key which I have locked up in my desk; should I begin teaching principles and all that, there would be no end of troublesome questions." In this last idea is much of the secret of the system. It works well, whatever the pupils may do, because, like the grammar and dictionary instruction in Latin and Greek, it saves the *teacher* a world of trouble. We remember to have seen a rule-book of algebra which recommended itself to the masters on the ground of saving them from being "pestered with questions." But to return—the *sums* as they are called, when, after many a correction, they coincide with the master's key, are carefully copied into a book, each with Qu. at the beginning and Ans. at the end, with red-ink lines in the places which taste points out; and this goes home at the vacation with the young gentleman, a triumphant proof of his progress, showing the delighted parent that his hope is *in* "compound multiplication," or, if he be a genius, *in* "discount," or "barter." This has been done in three years (we speak from knowledge), which, considering that the last rules consist in dividing a sum of money into parts, and taking some of those parts, is not such bad progress. In this way is the pupil driven through some dozens of commercial rules, reducible on principle to three at most, and these unconnected, ill-arranged, and in nine cases out of ten utterly useless to the person who knows them. Fractions are presented, both com-

mon and decimal, but so disguised that not the least likeness is apparent. Hence the rules must be repeated in such case, and thus in Bonnycastle's Arithmetic appear three distinct rules headed as follows:—

Rule of Three.
Rule of Three in Fractions.
Rule of Three in Decimals.

These are applied, as before, mostly to commercial affairs, which we imagine are considered as forming a necessary preliminary to geometry, since the road to the Pons Asinorum is always made to lie through Agio and Banco, Interest and Discount, and the like. The final consequence is, that the pupil having worked unmeaning and useless questions by slatesfull for some four or five years, comes out master of a few methods, provided he knows what rule a question falls under, which is not always sure to be the case: for in all probability the first application which it is necessary he should make will be a combination of more rules than one, and, therefore, not exactly to be solved by the rule in his book. And here he is fairly aground; for not having any principles, the necessity of one step different from that laid down in the rule is a total extinguisher upon the success of his efforts. So much for the system of arithmetic most appropriately called *ciphering*, since intellect goes for nothing throughout.

After the excellent preparation above described, such of the pupils as retain any power of comprehension, or have not been utterly bewildered in the labyrinths of cwts. and lbs. are made to commence geometry, or as it is called *mathematics*. Here we must observe, in justice to the instructors, that they have not degraded the latter

term by applying it to their figure-work, miscalled arithmetic. And here the form of demonstration is adopted. We may ask, how comes it that reasoning, utterly banished from arithmetic and algebra, has continued to be an essential of geometry? We suspect it arose from the fact of the treatise of Euclid being found already established, and the disinclination to overturn any institution being so great, that this work preserved its place in spite of its truth and beauty. Had it not been for this, we suspect that geometry would have consisted in calculating the area of squares and triangles—in fact, that it would have been all contained in one of our practical works on mensuration. Even as it is, there are not wanting some contrivances to prevent the perfect mastery of reason. One is, to give the pupil a case of instruments, and let him spend his time in drawing figures, taking care that these shall consist of broad ink lines, to prevent his eye and hand from acquiring the incidental advantage of real accuracy. The propositions are also said by rote, for the convenience of those who find their memory in a better state than their reason. Many a youth who can *say* the first book of Euclid cannot say whether it would or would not do equally well to reverse the order of all the propositions. Great attention is paid to the phraseology of the book. The never-ending reiteration of Simson's Euclid is the very cream of the matter. But the prime feature of the system, though now somewhat obliterated, was the necessity for recollecting the numbers of all the propositions; for it could clearly be of no advantage to know that three angles of a triangle are equal to two right angles, unless it was also known that this is the thirty-second of the first book. There seems to be

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We now come to the method of teaching algebra, with regard to which, all that has been already asserted in speaking of arithmetic holds to its full extent. But as the former subject holds a higher rank than the latter, it would be undignified not to teach it with some defects peculiarly its own. If arithmetic were unintelligible, algebra is made to render that obscure which before was easy. The latter may be divided into two parts: the first containing merely universal arithmetic, that

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of them belongs to one particular species of mistake,
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the error and the mode of correcting it, and these sym-
bols take their place by the side of those in which no
contradiction occurs, and can be used with certainty,
and, by those who know their meaning, without confu-
sion of ideas. In employing them, it is sometimes
necessary to extend the signification of common terms
to avoid separating analogous cases and multiplying
definitions. It is plain that this refined branch of the
science should not be the first taught, but that the pupil
should be led, in the track of invention, to its several
parts, so as to arrive at each at the precise moment
when he can understand its origin and use. A contrary
course will ensure years of travelling in the dark,

a magic in numbers, which no one can withstand, from Leibnitz, who proposed to convert the king of China to Christianity by means of the binary arithmetic, to the mathematical master of a country school, who measures his pupils' conviction of geometrical truths by their power of recollecting the order in which they come. In addition it must be observed, that the more difficult parts of the system are, like the rest, said or sung after the manner of school-boys, without the least elucidation. The fifth book, which, though defended by many on account of its superior rigour, is pretty generally admitted to be very difficult, if not absolutely unintelligible to the young, shares the same fate. If geometry is at all connected with algebra, it is by means of false analogies and such jargon as that the algebraical theorem $(a + b)^2 = a^2 + 2ab + b^2$ proves the fourth proposition of the second book, and why? because a^2 or *a multiplied by a*, is *called* the square of a, and ab the *rectangle* of a and b, &c.! Under these circumstances, the inquisitors who condemned Galileo would not much object to our geometry, seeing that such reasoning might be made as effectual in proving the stability of the earth, as the arguments of that great man were in overturning it.

We now come to the method of teaching algebra, with regard to which, all that has been already asserted in speaking of arithmetic holds to its full extent. But as the former subject holds a higher rank than the latter, it would be undignified not to teach it with some defects peculiarly its own. If arithmetic were unintelligible, algebra is made to render that obscure which before was easy. The latter may be divided into two parts: the first containing merely universal arithmetic, that

is, calculations leading to theorems which are equally true for classes of numbers. To investigate these, universal numbers are introduced, represented by letters, for which, when the process is finished, any numbers may be substituted which are consistent with the conditions of the problem. The second and more extensive branch takes its rise in a peculiarity which distinguishes algebra from all other sciences, viz., that when a problem is impossible, or admits an infinite number of solutions, or has been misunderstood in applying algebraical reasoning, the solution itself, instead of being rational and consistent, points out the error by appearing in one of the forms $-a$, $\sqrt{-a}$, $\frac{a}{0}, \frac{0}{0}$ and others which the algebraist will immediately recognise. These symbols are contradictory and absurd in their nature, yet, by carefully observing the problems in which they occur, it has been made apparent that each of them belongs to one particular species of mistake, and to no others. Hence the solution itself points out the error and the mode of correcting it, and these symbols take their place by the side of those in which no contradiction occurs, and can be used with certainty, and, by those who know their meaning, without confusion of ideas. In employing them, it is sometimes necessary to extend the signification of common terms to avoid separating analogous cases and multiplying definitions. It is plain that this refined branch of the science should not be the first taught, but that the pupil should be led, in the track of invention, to its several parts, so as to arrive at each at the precise moment when he can understand its origin and use. A contrary course will ensure years of travelling in the dark,

besides the certainty of accustoming the young mind to implicit belief in apparently contradictory propositions. But as if this were to be desired, we find the most elementary parts of algebra crowded with numbers which are to be subtracted from nothing, the results of which are to be added to and multiplied by similar numbers, for in no other sense can the pupil in that stage of his progress interpret the symbols which are put before him. This is on the supposition that he attempts to interpret them at all, about which no great concern is manifested. Thus, in Bonnycastle's Algebra (the school abridgment) we find the following definition :—

" — *Minus*, the sign of subtraction, signifies that the latter of the two quantities *between which* it is placed must be subtracted from the former." Six pages do not elapse, before we find the pupil directed to add $+ 3xy$ to $- 2x$.

It may be said, that pupils raise no objections. This is the most fatal argument that could be adduced. We know well that pupils always receive implicitly what their masters tell them, and why is it that they are led to the study of Mathematics? Precisely that they may learn to raise objections, and how to raise them in the proper place, when false logic and absurd definitions make objections desirable. To make him turn a mill is not the way to restore sight to a blind horse, nor will a routine of unintelligible or contradictory propositions develop the powers of the mind.

As in arithmetic, so in algebra, there is no reasoning, but all is rule and work. Nay, even the instructor himself is not supposed to possess this faculty, since to all the works of algebra a key is published, containing

literatim the solutions of all the questions, simple and otherwise, and it is well known that no similar work will succeed without such an accompaniment. In the key to Bonnycastle's Algebra we find $a - x$ multiplied at length by itself, for fear the instructor should slip; also the solutions of the equation $4-9x=14-11x$, and many other such.

In answer to a defence sometimes set up, that the system is *practical*, we observe that much of what is done has no reference to any practical end whatever. The great body of the algebraical work of a school consists in questions of multiplication and division which never occur in practice—above all, in the solution of certain conundrums called problems, producing equations, of the *practical* nature of which the reader shall judge from the following specimens extracted from Bonnycastle's Algebra.

"A person being asked the hour, answered that it was between five and six, and the hour and minute hands were together. What was the time?"

"A post is $\frac{1}{4}$ in the mud, $\frac{1}{3}$ in the water, and 10 feet above the water; what is its whole length?"

"A person has two horses and a saddle worth 50*l.*; now if the saddle be put on the back of the first horse it will make his value double that of the second, but if it be put on the back of the second it will make his value triple that of the first; what is the value of each horse?"

Now if all this be meant for improvement in theory, no one will deny that the reasons of all the rules should be previously understood; but if they be practical questions, we need only say that people have more pertinent methods of answering the question "What's

o'clock ?"—that no one concerns himself about the proportion in which a post is shared between wind, water, and mud; and that the Newmarket gentry have a better way of determining the value of their horses than by involving them, saddles and all, in a simple equation.

Such is a general outline of a course of elementary mathematics which was universal, and is still too general. We do not mean to charge every place of education with every one of these absurdities. It would be monstrous to suppose that, however universal the prejudice may be against reasoning, all should have adopted exactly the same method of keeping it out of the way of boys. We proceed to offer some suggestions as to the manner in which this system should be improved, in doing which, we cannot assume the tone of certainty in which we have hitherto proceeded. All that has been stated hitherto is notorious fact; we now come from matter of evidence to questions of opinion, knowing that it is more easy to pull down than set up, though feeling convinced that the following methods will be found more profitable than those which we have described.

It is useless to present reasoning in any shape until the language used is perfectly familiar. No one can learn new words and comprehend new combinations of words at the same time. Hence a perfect acquaintance with the English sentence is the first thing to be taught. In this knowledge boys are usually deficient. They know, it is true, how to name each part of speech; but they have no acquaintance with that more general part of grammar which is the foundation of the forms of logic. As an example, no mistake is more common than concluding the converse of a proposition to be the same

thing as the proposition itself in every case where the terms are new or complicated. Thus in commencing geometry the student thinks that "all equilateral triangles are equiangular," proves that all equiangular triangles are equilateral. These errors should be guarded against beforehand, by exercising the pupils in simple deductions, such as are to be found in every syllogism, taking care that all the terms used have reference to objects with which they are familiar. It should be illustrated to them that the truth of an argument depends on two distinct considerations, the truth of the premises, and the manner in which the conclusion is deduced from them. They should be made to see the difference between a fact and a deduction from two or more, and also that good reasoning may be instituted upon data which are imaginary, such as the definition of a point and a line in Euclid. It is much to be regretted that no book exists in our language which can be recommended to children as a direct exercise of thought on subjects with which they are familiar. He who shall supply this desideratum will deserve more than the present age will be willing to allow, but may safely trust his fame to succeeding generations. For want of such a previous exercise the boy has to contend with two difficulties at once, new things and new methods; and education is not what it should be, a search after that which is not known, by the light of that which is. We proceed to the study of arithmetic.

The method of numeration should be clearly explained and illustrated by reference to other systems besides the decimal. By the use of counters or any similar mechanical means, the pupil would readily perceive the use and advantage of giving to figures a local value. The

explanation of the four principal rules would then be easy, but in learning them for the first time the pupil should not be allowed to make use of the abbreviations which will afterwards be convenient for practice, and which all consist in the omission of ciphers. The arithmetic of concrete quantity would furnish abundant illustration of these rules, since the principles of all parts of the science are the same. The rule for finding the greatest common measure of two numbers will supply an example of logical argument, which should be repeated on several distinct examples. In fact, the learner should accustom himself to apply to every case those principles of reasoning which in algebra are generalized by the application of universal symbols for numbers. He will thus smooth the road to the latter science, which will present only one new feature at first. In teaching fractions, a perfectly correct notion of their meaning should be given, illustrated by examples taken from concrete quantities. Distinct things should not be confounded because they have the same names. The multiplication and division of fractions is an example. Strictly speaking, the definitions given of these words can apply only to whole numbers, or to a whole number and a fraction: the name is extended *after* that operation is discovered, which it will be necessary to substitute when fractions take the place of whole numbers in a problem, and not till then, should the student be allowed to use the terms as applied to both sorts of quantity. The transition to decimal fractions is simple and obvious; but the pupil, before he is permitted to change the notation, should be accustomed to work questions containing decimal fractions expressed in the common way of representing all fractions. The re-

duction of any fraction to a decimal will lead to the notion of what is called a circulating decimal, which is all that the pupil requires, as the rules may very safely be deferred until he understands the nature of a geometric series.

The commercial rules are simple applications of the very first principles. They may be introduced as examples of the others, and thus many long and distinct processes found in all the books will be reduced to two or three. We have not space to enter into further detail; the following remarks will close this part of the subject.

The object of the master ought to be to make his pupil understand the process before him. The latter ought therefore to be questioned on every part of his work, and encouraged to mention all the difficulties which have occurred to him. Above all, the boy ought never to be suffered to imagine that he is stupid because he does not immediately see what is put before him. Schoolmasters do not sufficiently bear in mind, that their pupils are learning to use faculties, with regard to which, were it not for instruction, all would be nearly on a level. To discourage a beginner, by making him fancy himself beneath the rest of his species, is the surest way of losing time and trouble. That inattention or negligence should meet with reproof is undeniable, but this should not come in such a form as to dishearten the well-disposed, or to give the indifferent pupil an excuse for making no progress, by laying the blame on his faculties, and saying he has no head for arithmetic.

Numerical exactness is of the utmost importance,

and will be sooner arrived at by the pupil who understands the principles than by any other. The greatest difficulty which boys find in attaining it, arises from the custom of writing all the figures on a slate, on which (since beginners in arithmetic rarely write well or evenly) the various columns of figures are mixed, and slant in every possible way. Why should not the young calculator employ the same method as is frequently used by the older one, of writing on paper ruled into small squares, one for each figure? Let this be tried, and we will answer for a much better average rate of correctness. As soon as the principle of each rule is really understood, skeleton forms might be used with advantage, by which the pupil might be required to abide.

The study of geometry should, in our opinion, not be deferred one moment later than is absolutely necessary. Many of the names here are new, and the beginner should be made very familiar with them before he encounters the difficulties of a demonstration. This might be attained by making him previously acquainted with the leading facts of the first three books of Euclid. It is easy to give ocular demonstration of them all, and this, while it fixes the terms in the memory, will excite curiosity, and give an idea of the utility of the science. Much depends on the manner in which a study is introduced, and the commencement of Euclid's Elements is not calculated to afford a favourable idea. It consists of multitudes of definitions and axioms, some of which are far from self-evident, and begins with three troublesome propositions, showing that from the greater of two lines a part may be cut off equal to the less. This may be very necessary to the received standard of geometrical

rigour, but the beginner cannot enter into this refinement. And, in fact, the order of the propositions is not necessary to correct reasoning. This consists in forming the conclusions rightly from the premises, no matter what these last may be. It would not be contrary to good logic to assume the whole of the first book of Euclid, and from it to prove the second; provided that afterwards the first book were proved, without the necessity of taking for granted any proposition in the second. The argument, or collection of arguments, would then stand thus:—

If the first book be true, the second is true.

But the first book is true;

Therefore the second is true.

The order in which the premises come does not affect the soundness of the conclusion, and provided the pupil understands that the conclusion depends equally on the premises and the reasoning grounded upon them, which are two distinct things, an error in one not necessarily affecting the other, he is perfectly safe, and takes a view of the process of reasoning not generally given to the young. We should then recommend the following principles in teaching geometry:—

Never to state a definition without giving ocular demonstration of one or more facts connected with the term employed.

To defer every axiom, until that point is arrived at, where it becomes necessary.

To impress upon the mind of the pupil that the reasoning is not affected by the assumption of an axiom to be proved afterwards, provided the proof of it is independent of the proposition which it was used in proving, and its consequences.

To accustom the beginner to retrace his steps, and going backwards from any proposition, to continue the chain, until he arrives at the point which he set out by assuming.

To supply a proof that "all right angles are equal," and to deduce the axiom on which Euclid grounds the theory of parallels, from this more simple and obvious one, viz., "through a given point not more than one parallel can be drawn to a given straight line."

To omit those propositions which are not subsequently useful, among which may be reckoned many in the second book, and all in the fourth.

In order to accustom the pupil to correct statement of propositions, he should be made to write all that he reads. But here is a probability that he will trust entirely to the book. This may be prevented by requiring him to use numerals instead of letters throughout, and to arrange the whole in the following manner. Let a sheet of paper have two vertical columns, ruled on the left, and let the whole enunciation, construction, and demonstration of the problem be divided into distinct paragraphs, each containing only one assertion. Number these paragraphs in the first ruled column, and, in the second, opposite to each paragraph, enter the numbers of the preceding ones from which it follows. Where a previous proposition, or an axiom is required, write its enunciation at the end, with a letter before it, and enter that letter opposite to the paragraph in which it is assumed. If the pupil does this correctly, the instructor may be well assured that he understands the proposition.

In the application of algebraical symbols to geometry, misconceptions usually prevail which are coun-

tenanced by the looseness of expression of many elementary works. They are mostly founded upon the analogy existing between the algebraical expression $a \times a$, or a^2, called a square, and the geometrical square described upon the line which contains a units. Against this confusion of terms the teacher must be on his guard, and should carefully avoid that symbolical notation recommended in some books, by which $A\,B^2$ is made to stand for the square described on $A\,B$. If a short symbol for this be used it might be $\boxed{A\,B}$, and the necessity of proving that the number of $\boxed{1}$ is contained in $\boxed{a}$ is $a \times a$, would not be concealed under a *petitio principii*.

With regard to the fifth book of the Elements, we recommend the teacher to substitute for it the common arithmetical notions of proportion. Admitting that this is not so exact as the method of Euclid, still, a less rigorous but intelligible process is better than a perfect method which cannot be understood by the great majority of learners. The sixth book would thus become perfectly intelligible.

It would much benefit the pupil if solid geometry were introduced at a more early period. There is nothing in the elementary propositions which requires more than the first book of Euclid; and by a judicious use of the *real* figures, instead of perspective drawings, the subject might be amazingly simplified.

We come now to the subject of algebra, regretting that the limits of this article will not permit us to discuss the subject upon the scale which it deserves. The great drawback to the proper attainment of this science is the miserable previous instruction in arithmetic. When

this defect is remedied, and not till then, can we expect any better results. It is the practice not to let the pupil proceed to the principles of equations until he can work questions in all the previous rules of a nature which very rarely occur in practice. And of these rules themselves it must be observed that, in order to preserve analogies with arithmetic, their meaning is usually distorted. To the unintelligible way in which the negative sign is used we have already alluded. We shall now explain our views as to the manner of proceeding.

The new symbols of algebra should not be all explained to the student at once. He should be led from the full to the abridged notation in the same manner as those were who first adopted the latter. For example, at this period he should use aa, aaa, &c., and not a^2, a^3, and should continue to do this until there is no fear of that confusion of $2a$ and a^2, $3a$ and a^3, &c., which perpetually occurs. Whenever any new symbol is introduced, not a step should be made until it has been rendered familiar by finding its arithmetical value in particular cases. This indeed is the first exercise; algebraical expressions increasing in complexity are given, and also certain values for the letters, and the student is left to find the corresponding arithmetical value of the expression. Whenever a negative result occurs it should be thrown aside as an impossibility, the pupil being told at the same time that use will be afterwards made of such expressions when he can understand what they mean in the solution of a problem. The leading principles of the solution of equations of the first degree might then be easily established, and applied to some numerical equations. The four rules should follow,

the principles being previously explained, and all negative results avoided. The student is then in possession of the means of solving an equation of the first degree in which some of the given quantities are literal, and may be supplied with examples a little more likely to aid his future studies than the conundrums about posts and saddles which we have instanced.

At this stage of his progress the pupil should be set to work a problem in which a negative result occurs. It should then be pointed out to him that there is a misconception of the problem itself, and the manner of rectifying that error will show, in the course of several examples, what is the meaning of the negative answer. At the same time it will be easy to explain by examples the nature of the wrong suppositions which lead to results of the form $\frac{a}{0}$ and $\frac{0}{0}$. He should then examine for himself what change is produced in a process which sets out with some assumption as to $b - a$, when this has been incorrectly written for $a - b$. By comparing the true and false processes he will deduce the rules according to which negative quantities must be treated, in order that their introduction may not affect the soundness of the conclusion. He is thus placed in the same condition as to results with the pupil who has pursued the common method; with this difference however, that he can explain conclusions which the other cannot, and has never believed that, $a - b$ meaning a diminished by b, there can be such a thing as $-a$, or a quantity *less than nothing*.

The view which is generally taken of expressions of the first and second degree is too confined for the future purposes of the mathematical student. It is this: what

values of x will make the expressions $a\,x - b$, $a\,x^2 - b\,x + c$, &c., equal to nothing: whereas, it is necessary to inquire what values of x make these expressions positive, negative, or nothing. All that is learnt appears to have no higher view than enabling the student to solve the pretty problems which we have mentioned, and not to simplify the higher parts of the science. This is too much the fault of the education of our schools in general. It is not recollected that they cannot expect to make learned men; but they may make good learners, and at the same time produce such a desire for knowledge as shall lead the individual to devote himself to study, where it is not matter of compulsion, as in the Universities, and still more amid the occupations of life. The great mistake lies in a notion that they are to teach the greatest possible number of bare facts before the pupil arrives at the age of sixteen; whether he will leave school with the desire of adding one more bit of knowledge to his stock, or with the power to do so if he has the will, does not seem to be considered of any importance. Again we call upon all who still adhere to the old system to reflect a little on their own interest. The number of new methods of teaching proposed every day shows the existence of a general feeling that some change is requisite. The Universities, which have made great advances within the last twenty years, may be proposed to the schools as an example for their imitation. And let them recollect, that, the demand existing, the question is not whether they will supply what is asked for or something else, but whether the public must come to them or go elsewhere.

ON THE STUDY OF GEOGRAPHY.

By G. LONG.

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A COMMERCIAL country, with numerous and extensive foreign possessions,—a country whose soldiers and ships are found on almost every coast, and whose travellers visit every country, would seem peculiarly adapted to be the centre of geographical knowledge. That Great Britain has made, and is daily making, very large additions to our knowledge of the earth's surface, is a fact which will be generally admitted; and that hitherto all these accumulated facts have been turned to very little account in systematizing our knowledge, is another fact which is equally indisputable. The nation that has now for several centuries made discovery, colonization, and foreign conquest, whenever opportunity offered, part of its political system, had not, three years ago, even a geographical society, and at present there is not, we believe, a single public teacher of geography in the universities and colleges of Great Britain, with the exception of the professor lately appointed in the London University *. The London Geographical Society now forms a point of union for those who are interested in the knowledge of the earth's surface, and by its Journal it invites and offers facilities to the publication of many valuable contributions, which otherwise would never appear. The formation of a library and a collection of maps, which also are part of the Society's plan, together with the

* Geography has been publicly taught at the London Mechanics' Institute for some time.

communications existing between this and foreign societies, will tend to concentrate a great variety of information which hitherto has been scattered and comparatively useless. The limited funds of the Society, and the great expense and risk of expeditions, place all direct discovery almost beyond the sphere of the Society's operations. And indeed, as a general rule, such discovery is best left to individual enterprise, or it belongs to the business of government. Yet a geographical society ought to contribute indirectly towards discovery by pointing out to travellers what has been already done, by furnishing them with a set of proper and well-arranged questions and directions, and by giving such countenance as each individual or undertaking may merit. The holding out a promise of a prize for a certain thing to be done, or for the writing of a certain essay, for which individuals must be competitors, as the phrase goes, appears to us not likely to do any good; and we are glad to see that hitherto the Society has not had the opportunity of awarding any premiums of this kind. They have been given, as we hope they ever will be, to individuals who had done some service, without troubling themselves about the Society's offers. The Society, when it has a premium to dispose of, should look around and confer it on some individual whose services are such as will render the conferring and the accepting of the premium equally creditable to both parties. The Geographical Society's views cannot, we think, go beyond what we have mentioned; nor do we see any way in which such a Society is likely to improve geography as a science. Some persons, however, differ from us in opinion on this last point, and think that the Geographical Society may in many ways tend to raise geography to the rank of a science. This opinion appears to us to be founded on a misconception of the na-

ture of a society; and in conformity with this, as we conceive, erroneous notion, societies are often blamed for not doing that for which they are by their constitution altogether unsuited.

It is only by making geography an efficient part of early instruction that we can expect to see a set of men formed, who, being thoroughly acquainted with the proper objects and limits of their inquiries, will set about classifying the innumerable facts with which geography has to deal, and deducing from them legitimate inferences. Of course, it will be said that geography is already a part of instruction in every school: this is true, and yet it is still far from having assumed any shape that entitles it to the name of a science. The term science has been generally applied, and sometimes exclusively, to those branches of investigation which have quantity for their subject, and which proceed on strict demonstration. Thus it is applied to the pure mathematics, and, by an extension of the definition just given, to those branches of knowledge whose principles are founded on observation and experiment, and whose results are expressed by number. It may also be applied, and should be applied to all subjects, in which such general principles have been deduced as render it practicable to arrange all the matter of a subject under certain heads or divisions, such heads or divisions being formed and distributed in accordance with, and subordinate to, certain general principles. Geography is a subject which, from its nature, has been hitherto particularly vague and indefinite. It is not a science of demonstration; nor is it a thing of which the matter is divided and distributed in subordination to general principles; nor, like zoology and botany, is it limited with precision by the nature of the subject of inquiry: it treats of all things, or is said to treat of all

things, and this is the reason why it treats with precision of nothing at all.

Geography, as the school-books tell us, is the description of the earth, and then they refer us to its Greek etymology as confirming the definition. On looking into these books, we find that they are in general any thing but a description of the earth; and yet a description of the earth's surface *is* the proper and legitimate subject of geography. We altogether object to the views of those who advise us to keep the definition of geography somewhat vague, in order to comprehend within it as much useful matter as we can. In a good book of travels we are glad to find every kind of information, and from such a work the botanist, the zoologist, and others, may glean those facts which bear more particularly on their several pursuits. But when we are endeavouring to improve a science, or to convert a vague subject into one, the first thing that we have to do is to fix its limits.

Geography will never deserve the name of a science till the matter of it is divided and arranged in conformity with general principles; nor of knowledge, till its facts are reduced as much as possible to numerical representation; and it is no objection to this, that many of its numerical representations must be merely approximative. It is better to know that the average value of a fact lies between 95 and 100 than to have no definite idea of it at all.

Geography takes for granted the spherical figure of the earth, but the astronomical determination of positions upon its surface is one of its special objects. By the determination of a great number of coast positions, we arrive at a notion of the exterior configuration of the land, as bounded by water. The investigation of the tides, currents, &c., of seas and oceans, is a subject extensive enough of itself, and properly belongs to the

hydrographer. To this separation of hydrography and geography some objection has been made, but not yet supported, as far as we have seen, by any good reasons. The study of rivers is generally admitted to be an important part of geography: why then, it is asked, not include hydrography, as above explained, in the science? It is a sufficient answer to a *mere* objection put in the way of question, to reply by asking another question: the proper answer to this objection then will be—why should we include it? The division of the globe's surface into land and water seems a very natural one, and the knowledge of this surface will, in our opinion, be best forwarded by following the obvious division which nature presents to us. We assign the rivers to the geographer, because the hydrographer cannot trouble himself about them any further than concerns their outlets and tide water. It is in such places as these, and at the heads of bays and inlets, that the hydrographer and geographer will sometimes meet and have a little friendly communication; but neither of them, if they are wise, will seek to enlarge his domain by encroaching on that of his neighbour.

The next object of the geographer, and, in fact, his great business, is to determine the form of the surface of the land. If we knew the latitude and longitude of each place, and its perpendicular elevation above any given level, we should know all the irregularities of the earth's surface, which, however trifling they may be when compared with the whole mass, are of the highest interest to man, as without them the earth would not be suited for his habitation. The ascertaining of the actual and relative heights of places on the earth, which may be termed *hypsometry* (height-measurement), is a branch of geography that requires both to be extended and rendered more exact. But the number of points that we

can ever expect to ascertain will always form a small part of the whole surface of a country, and we must therefore have recourse, by way of supplement, to *geographical description*. This branch is necessarily less exact than the former, inasmuch as it must avail itself nearly altogether of *words*, which never convey with perfect accuracy either the facts of nature or the impressions of a writer. It necessarily involves the use of a great many terms, such as mountain, valley, plain, which, from their nature, can never be defined with such accuracy as to render the use of them altogether free from objection. Still we must attempt, partly by numerical values, whenever this is practicable, and partly by description and by representation on paper, to give as accurate an idea as we can of the mountains, valleys, plains, and all the irregularities which mark the surface of a country. Here the pursuits of the geographer and the geologist have certain points of contact. The geologist, though his inquiries are more particularly directed to the position of rocks and the nature of their contents, cannot overlook the general configuration of the surface. Nor will the geographer, though his special object is to ascertain the *form* of the surface, neglect to observe such changes as are evidently in progress and are altering the character of that which it is his object to estimate. The general description of mountain-systems, including the direction of the main masses, and the area occupied by them, the junctions of different groups, the elevations of the chief points, the determination of the drainage-boundaries, &c., is now classed under the title of Orography. This term excludes, or it ought to exclude, all that refers to the particular mineral composition of mountains: it treats specially of their *form*. But in doing this, in describing scarped sides, flat tops,

needle peaks, or broad round backs, we conceive it is the business of the geographer to state, in *general* terms, the nature of materials which have such definite and characteristic forms.

The next important branch of geography is the description of the sources, course, and volume of rivers; the description of fresh-water lakes is included in this head. This branch leads to a more minute examination of those boundaries which determine the course of the waters that rise from the earth in springs, and of those which, descending in rain, find a more immediate channel by which to pass off. The drainage of a country is, as a general rule, marked out into a number of great divisions, often called, whether with propriety or not, *basins*;* each basin has its main drain, with a number of smaller drains running into it. To determine the limits of each great basin, or the boundary lines of the surface drained by the great rivers of a country, is a necessary step towards an accurate knowledge of it.

The study of rivers leads to a more careful consideration of the slopes along which their waters descend towards the general recipient, which is either the ocean, an inland sea, or lake. These slopes are generally bounded by high land on each side, constituting, with the lowest level between them, what are called valleys. The form of these valleys, through which we trace rivers, is almost infinitely diversified, and the study of them may be said to be the most interesting and useful part of geography; they are the chief seats of man's abode, and of his culti-

* It might perhaps be advisable to use another term, as the term basin is used by geologists, and in a different sense. Basin however is well established in geographical description, as indicating the whole space drained by a river: "valleys" of course are included within "basins," and are parts of them. (See Darby's United States, p. 59, note.)

vation, and their waters give life and activity to his social intercourse. Various names have been already given to valleys, according to their form, and in countries where the features of nature are on a large scale, some of these names are appropriate and convey an accurate idea. When a river runs in a long valley, bounded by parallel ranges of high land, of which we have numerous striking instances, its course lies in a *longitudinal* valley. But the course of a river is often changed, and it runs from a valley of the kind just described either into another valley or a completely different kind of country; this passage is generally effected by its waters taking a direction which makes a considerable angle with the line of the mountains and passes through them, either by a circuitous winding course forming a succession of *transverse* valleys, or by one short and narrow passage, to which the name valley cannot be given; the name of gorge has been sometimes used to express a passage of this kind *. But a more accurate examination of valleys will show the propriety of some additional terms; for as valleys have evidently been produced in more ways than one, so their forms are too various to be included in two or three terms. Some rivers do not run in valleys, according to any definition of the term valley as it now exists. Many rivers which flow through a flat region have probably grooved out a channel in the earth, to allow a free passage for their waters. The depth and breadth of these grooves are evidently dependent on the volume of water and the nature of the ground, and, we believe, are deepest in all countries where the occasional floods are the greatest. A river may thus hollow out a

* See Strabo's description of the Gorge of the Pyramus (p. 536. Casaub.); and the Passage of the Potomac through the Blue Ridge, in Jefferson's description.

channel several hundred feet deep, as the Ohio river, in some parts, has done, till it has made a passage large enough to hold any body of water that may come down. These excavations look like valleys, and are called so, but they seem to us to require a different name from other valleys. The hills which bound some parts of the Ohio and other rivers of the Mississippi valley have been sometimes appropriately called River-hills: seen from the water they present slopes, and sometimes tolerably steep sides; but their tops are the level of the plain, and have been cut into hill shape by the lateral streams which fall into the main channel *. This theory of the formation of the bed of the Ohio may be true or not: we give it here as it is given by the authorities referred to; and we do this merely with the view of drawing attention to the actual form of the river's bed. As to the hypothesis itself, of the channel of this or other rivers having been formed solely by the action of water, we may remark, that it is not to be overthrown, as some would wish to overthrow it, by a few loose comparisons with other rivers which are of a different character. Those who will take the pains to begin to study the surface of the United States, will find they have yet much to learn; for considered as a whole, the country presents in its physical character and its climate many features which, if not peculiar to it, are certainly not seen in all parts of the world. Those who wish to look further into this subject, may consult Darby's valuable work (p. 298, &c.) on the United States, without the study of which, or an actual knowledge of the country, any remarks upon the geography of the United States can have but little value.

* See the quotation in James Stuart's America, ii. 402, &c., Major Long's Expedition to the Rocky Mountains, i. p. 38, &c., and Darby's View of the U. S.

It would be desirable to have terms which should accurately express the several great divisions of geography, though we fear none can be proposed which will be universally received. There cannot, however, be much difference of opinion as to the propriety of admitting the following divisions of the subject, we say nothing of the names, which naturally arise out of the considerations already stated.

I. *Topothesy;* the determination of the latitude and longitude of points on the earth's surface *.

II. *Actography;* the *special description* of the form and nature of coasts. The outline of them is determined by No. I.

III. *Hypsometry;* the determination of the elevation of the earth's surface in general. It treats both of the elevation of level surfaces, and the depression and elevation of irregular surfaces.

IV. *Orography;* the description of mountains, is a branch of No. III.

V. *Potamography;* the description of rivers and fresh-water lakes.

It has been suggested that other divisions should be made, to render the determination of the form of the earth's surface complete. What data a man can ask for beyond I. and III., we are unable to conjecture.

To these five heads we think it advisable to add—

VI. *Climatography;* the description of climate. It depends mainly on I. and III., modified by numerous local circumstances. 'Climatology† is geographical me-

* Τοποθεσία is used by Cicero ad Attic. I. 13, as synonymous with τοπογραφία. But the word properly means what in the text is intended by it.

† We prefer the compound climatography for reasons sufficiently obvious. For the same reason we distinguish between anthropology and anthropography.

teorology, or the study of the properties of the atmosphere in the various parts of the globe: it is consequently a part of physical geography.' (Schouw, Beiträge zur vergleichenden Klimatologie, 1827.) The business of *observing* temperature, winds, rain, magnetic phænomena, &c., are distinct pursuits, and this branch of knowledge is only to be improved by long continued and often by simultaneous observations made in many places. But it appears to us to be the business of the geographer to collect and compare the results of such observation made at various points on the earth's surface, and to endeavour to deduce from them general laws. If the geographer, who has continually to do with astronomical position and elevation, does not attend to this branch, we do not see whose business it is. A geographer may be an observer, or not, of the astronomical phænomena which determine position; he may measure the heights of mountains, or he may learn these isolated facts from others: but it is his special business to collect all facts bearing on his science, to subject them to the tests of comparison with other known facts, and to determine their relative value before classifying them or drawing general conclusions from them. We think the critical part of geography is hardly enough insisted on. Till facts are in some way so marked as to show their relative value, we do not see how geography can become more exact. As the leaving of large blanks in maps indicates our ignorance, and is a better plan than putting in rivers and mountains of which we know nothing; so in the geographical description of countries, it should be stated, of what parts we know little, of what parts we know nothing; and the points about which knowledge is wanting should be particularly enumerated.

Beyond the six heads above enumerated, the geographer, in our opinion, should not go; and we think they will furnish him with ample employment. It is not the business of the geographer to look under the surface of the earth; he leaves that to the geologist. Nor is it his business to treat of the distribution of animal and vegetable life over the globe: this, we think, belongs to the botanist and zoologist, and though it is a branch in which writers on botany and zoology are not always very exact, it is desirable that they should labour to improve a subject which belongs to no other branch of knowledge so closely as theirs. On this point, however, there is much difference of opinion. Some think that the distribution of plants and animals is an important part of geography; and indeed, if any geographer will undertake to treat this department satisfactorily without neglecting the rest, he will do good service. But we apprehend that it will be found very difficult for any one man, in the present state of our knowledge, to treat all of them as completely as could be wished. It is from a conviction of the necessity of limiting the objects of geographical study, that we venture to suggest the omission of this branch.

There is one animal whose geographical distribution is a subject of great interest—the animal Man; and it has often been remarked, that countries are generally interesting in proportion as they are connected with his history; but particularly with the history of *civilized* man: the history of the man whom the races calling themselves civilized stamp with the name of barbarian and savage, is not generally considered to possess much interest. This is true to a certain extent; we all feel that those parts of the world which have been the scene of

great historical events recommend themselves much more strongly to the imagination than newly-discovered countries inhabited by men usually termed savages. But with the increase of our knowledge, the means that open on us for mental gratification increase also. The inquirer into nature finds something new in every portion of the world, however wild and desolate; and even the barbarous inhabitants of our globe furnish us with abundant materials of curious inquiry. We contemplate man as the highest in the series of animals, zoologically considered, and when viewed with reference to his situation on the earth, his physical characteristics, his habits, and his language, as furnishing an unbounded field for inquiry and speculation. This branch of inquiry has not yet assumed among us, in ordinary acceptation, the distinctness of a separate subject, which is one reason why the numerous facts already known are very imperfectly arranged, and why curiosity is less actively directed towards the accumulation of new ones. This branch of knowledge has hitherto been generally left to geographical description; but it is evident that it can only acquire any systematic shape and value by being made a distinct subject of inquiry.

The term Anthropology, which is familiarly used in Germany, has for its proper subject man considered as an intellectual and moral being. It would be taking only a part of the subject of anthropology, and giving an undue extension to this part, if we were to make it include what we propose to denominate Anthropography*. Anthropography should treat of the varieties of the human race, as at present existing, and as determined

* See Immanuel Kant's Anthropologie in Pragmatischer Hinsicht, p. 303, &c.

by those physiological characters in which the best judges agree; it should mark out the countries in which they now dwell, the migrations of undoubted authenticity which have taken place among them, and the consequent mixtures of races: it should also attempt a classification of languages, marking such common points as are observable in two or more languages, when the proof of original identity is imperfect: it should not confound under one race or class, different races which, owing to various causes, have now a common language: it should describe those domestic habits, such as marriage, &c., and those religious ceremonies, which are most indicative of national character. It is almost superfluous to remark, that an infinite variety of facts, not easily reducible to any general head, would be collected in a system of Anthropography—all tending to make us better acquainted with the various capabilities and the strangely-diversified character of the animal man.

The study of the division of the world into political communities, the description of political boundaries, of cities, towns, roads, canals, commerce, &c., which forms the main subject of our ordinary books of geography, should in our opinion be taught under the head of Statistics. It seems to us that, to transfer all the mass of knowledge of this description, a great part of which is capable of a tabular form, to the province of Statistics, should not be looked upon as an innovation merely to help system-making: every subject gains in precision and utility, when we find it occupying the place and embracing the matter which are clearly its due. The term Political Geography has been generally used to comprehend the kind of description and the collection of facts just alluded to, and to distinguish them

from the real subject of geography, termed Physical or Natural, in opposition to Political. We are not advocating the exclusion of Political Geography from *books* which profess to describe a country. When we read of a country, we wish to know of its towns, public buildings, institutions, and roads, as much as we do of its mountains and rivers, and often much more. Still we think that *treatises* on geography would be improved by making the physical character of each country a distinct and prominent part of the subject. Political Geography is a distinct, though necessarily a connected subject; and its facts should be reduced as much as possible to a tabular form. Indeed a large part of physical facts also may be classed in tables, as they become known, for instance, extent of sea-coast, heights of mountains, lengths of rivers, &c.; and we should prefer, instead of giving numbers as certain when they are only approximations, to have a double column, each containing a value between which we might be sure that the true value would be found. This would perhaps destroy a great deal of what is termed knowledge, by substituting for it doubt and uncertainty; but in the end knowledge would gain; it would be less in amount, but of better quality.

The question, we think, may fairly be raised, whether, in *teaching* geography, we ought to comprehend all the subjects already mentioned as comprised in physical and political geography, or whether we ought to strike out some of them from the list. This question cannot be answered without considering the age and acquirements of the persons who are to receive instruction. If they possess the proper elementary notions, and the necessary preliminary knowledge, there seems no reason why the teacher should not follow his own views of what will be most serviceable to the class in

the actual state of their knowledge; he may touch lightly on some parts, dwell more on others, and endeavour to direct the studies of his hearers by suitable remarks and references, rather than by minutely working out any one branch. We can imagine that there may be many very good courses which shall differ materially as to arrangement, and the proportion allowed to each division. But we do not think that in any course of teaching, or in any elementary treatise, *geography* properly so called, that is, physical geography, should be mixed up with political geography, or *statistics*. By keeping the two subjects quite distinct, by exercising a careful criticism on all facts presented as facts, and by arranging them respectively in their proper classes, we shall begin to reduce to the form of knowledge two of the most interesting branches of human inquiry. One will teach us what the surface of the globe is, and what nature has done for each portion to fit it for the use of man: the other will show what man is doing for himself; and by the brief symbols of number, well ascertained, well digested, and then rightly interpreted, we shall learn how man lives,—we shall know his pains and his pleasures, his knowledge and his ignorance, his virtues and his vices, his progress or his retrograde movements, his coming into the world, his going out of it, and the period of duration assigned to him, when his life is considered as a fraction of one large integer. In this country, unfortunately, it will be long before statistics can assume the form from which all these useful inferences can be drawn.

The teaching of the *elementary* part of geography is the most important. By a few years of judicious training, boys will be fitted to receive and to profit by the courses of a public lecturer, while at present we fear

most youths are so devoid of all exact elementary notions as to be unable, as a general rule, to profit much by a complete written course of lectures. It is therefore most necessary that the improvement should begin with schools. The remarks that we are going to make have reference only to instruction in geography for youths, and they suppose that all the necessary previous knowledge has been obtained. The method used at Bruce Castle (Journal of Education, No. XI. p. 115, &c.), of giving the elementary notions of geographical position by making the youth familiar with the relative position of places near him, and the mode of teaching him the use of a map, appear as judicious as any that could be chosen. When these preliminary notions are obtained, it seems doubtful what is the next best step: whether to demonstrate the spherical figure of the earth, in such ways as are suitable to youthful capacity, and then to apply Agren's method for the purpose of giving a general notion of the exterior configuration of the land; or to take the country in which the youth lives, and for the present dropping all notions of astronomical position, confine him to the determination of all points and places by the measurement of straight lines from a fixed point. If the latter mode is preferred, to which we incline, London, of course, would be used by us for obvious reasons. By measuring the distances of all the great salient points on the coast from London, and laying them down according to their true bearings, the student would get a pretty accurate notion of the form of the island, and would become familiarized with the mode of referring the position of one place to that of another by its bearings. It would be desirable that he should obtain by actual measurement on a tolerably accurate map the length of sea-coast; first by making the island into a

polygon by lines drawn from one salient coast point to another, and then by measuring it along its sinuosities. The greatest and least dimensions of the island should also be measured both on meridians, on parallels, and also between other points on the coast not under the same meridian or parallel. Methods of approximating in a rough way to the area in square miles should also be pointed out. It might then be observed how many miles of coast there are for each square mile of area, and the fraction expressing this ratio would be useful as a standard of comparison for similar fractions deduced from the ratio of the coast line and area of other islands. The value of the fraction would at once show the general nature of the coast line of any island or insular mass of land, whether it was regular or irregular *.

In describing the coast as well as the mountains and rivers of the country, a number of terms come immediately into use, such as gulf, bay, sound, channel, promontory, æstuary, river, velocity of stream, plain, plateau, marsh, mountain, mountain-range, &c.

And here, as it appears to us, is an opening of considerable difficulty. Many of these terms are vague in their meaning, and have a different value when applied to different countries. The name of gulf is not applied to any parts of our English coast, though there are indentations to which it would be applicable. We believe a notion of considerable magnitude is generally attached to the term gulf, though there are exceptions to this; but we are not aware that the term includes any notion of form. As specimens of gulfs, there are the Gulf of Venice, Gulf of Lepanto, Gulf of Lions, Gulf of Mexico, Gulf of St. Lawrence, Gulf of Guinea, &c. It

* See Berghaus, Erste Elemente der Erdbeschreibung, p. 124, &c. Berlin, 1830.

seems difficult to say what a gulf is, though it is certainly desirable to fix the meaning of such a term. Of bays we have various specimens in these islands, from Pegwell Bay, a shallow sandy flat on the coast of Kent, to Bantry Bay in Ireland. Of foreign bays, we find the Bay of Biscay, Chesapeake Bay, the Bay of Bengal, &c., from which it appears difficult to say what are those characters which enable us to distinguish a bay from a gulf. It may be said that this is all trifling, and that such objections are mere quibbles, and that we all know what is meant by the words when applied to a particular gulf or bay. But any such answer as this appears to us entirely insufficient. We do not expect that people will forthwith call the Gulf of Mexico and Pegwell Bay by their new and more appropriate terms as soon as they are announced to the world; but if there be any marked characters of form, magnitude, position, &c., which will enable us to classify the gulfs, bays, &c., under certain heads, so that when we hear of a new gulf or bay, we have at least one correct idea suggested by the word, something would be gained. If this cannot be done, so much the worse for geography, which must always remain, as many wish it to do, rather loose and indefinite.

There is some difficulty about promontories, capes, heads, headlands, points, noses, though we think this difficulty is not insuperable. The word promontory might be used in a limited sense to express the bluff projecting termination of a mountain in the sea; but there is no reason why it should be restricted to such a piece of land terminating in the sea. It is capable of being applied equally well, and sometimes is applied, to similar abrupt terminations of mountains on the edges of plains.

Cape and head are merely the same name in two different languages; but we are not at all sure that they are used with much precision. The word cape is certainly applied both to low and high land projecting into the ocean; but it is clearly desirable to have distinct names for these different kinds of projections. Nose, naze, or ness, is not uncommon in England; but frequent in Scotland, and we find it also in Denmark: we have in England Sheerness, Dungeness, the Naze, &c. All these terms perhaps would come under some of the more general denominations of promontory, or capes, if they were well defined. It would not appear very difficult to divide the different projections of land into the sea into classes, according to some one, two, or more characteristics; it might be desirable to retain the usual names of cape, &c., adding to them a distinctive term by which each would be referred to its proper class.

As to mountains, the difficulty is great, for nothing is so indefinite as the word mountain. Elevations which are only hills in one country are mountains in another; and even in the same country the point at which a hill becomes a mountain is always a little uncertain. The remedy for this is to have geographically only *one* name to indicate all elevation; the altitude of each would be one element by which its more specific character would be determined. Next to elevation, the *shape* of mountains or of high land requires consideration. Land may be elevated and yet flat; there may be an ascent to it on one side, which looks like the slope of a hill or a mountain; but on ascending to the top of the slope we may find an extensive level, declining so imperceptibly as to convey no other idea than that of a great plain. Or a mountain may have two opposite

slopes of different inclination, with what is called its summit consisting of a level plain. Such a level is found on one of the summits of Olympus in Asia Minor, and indeed they exist in all hilly countries. Hence in connexion with elevations of the earth's surface we have various kinds of plains: we have *river-plains*, *hill-plains*, *mountain-plains* (ὀροπέδια, Strabo), and, no doubt, other kinds of plains. We by no means despair of seeing names given to these different kinds of flat lands, which will be favourably received and adopted. The term *plateau*, or table-land, seems to be sometimes used as indicating high flat lands as distinct from lower flat lands; but even if it obtains currency in this sense, it is by no means sufficient*.

We have before spoken of valleys. A valley, we find, is often defined very loosely "as the low ground between mountains, and as generally traversed by a river." From this definition it must follow that a great many rivers flow in valleys for only a small part of their course, and some certainly flow in no valleys at all. It might however possibly be useful to consider all streams as flowing in valleys, provided we assign to these valleys specific names, derived from some one or more properties by which they are characterized.

There seems to be no method of imprinting on the memory a tolerably correct outline of the great boundaries of the land and water on the globe, except by some method similar to that of Professor Agren. (See Journal of Education, No. XI. p. 27, &c.) And we think there can be no difference of opinion at all on the necessity of teaching boys, or rather, according to Agren's

* See Berghaus, p. 41, &c., on flat lands, &c. His division appears founded too much on bare elevation, which we think insufficient.

plan, inducing them to teach themselves under what parallels and meridians all the great limiting points of the land are placed. For instance, a boy should be able to refer from memory such points as the Cape of Good Hope, Cape Verde, Cape Guardafui, the Straits of Gibraltar, the most southern point of Spain, the most southern point of the Morea (not the most southern point of Europe, as is sometimes stated), the mouth of the Rhine, Danube, &c., to their right astronomical position on the earth's surface. Such a bare outline as this, if a boy learned nothing at all beyond it, would save him from much confusion and numberless ridiculous errors. But this frame-work, when gradually filled up, would present to the mind a number of subdivisions, to each of which the pupil would readily refer all isolated facts, as they occur in his various readings, or whenever they are presented to him with sufficiently accurate data; he thus would acquire a real geographical picture of the earth, the great outlines of which might be continually approximating more and more to accuracy without deranging the general impression. In a similar way he would print on his memory and imagination the general direction of the great mountain ranges, and the exact position of their more remarkable points. Both for those who make geography their special study, and for the botanist, zoologist, and geologist, such a foundation of geographical knowledge is absolutely indispensable. In all the three last departments of knowledge here alluded to, can we doubt that many erroneous generalizations, and often inconsistent assertions, would be checked if a man always had this fundamental knowledge of geography?* Men cannot always write with

* One instance is as good as a hundred. A modern writer on

maps before them, nor are men always willing to be making constant references to such very troublesome monitors as good maps are; sometimes most unkindly overturning a whole heap of hypotheses, ingenious conjectures, and pleasant, easy, self-satisfying generalizations.

To acquire an accurate and at the same time a complete geographical picture of a country, we must see it represented under various forms; we must have in fact a *series* of maps with the same outline, but a different filling in. Our own island, for example, might be represented, first with a bare coast outline and the courses of the rivers. This should be studied after the method of Agren till the picture is distinctly impressed on the mind. In a second map we would place the high ground and the rivers also. Other maps might be constructed to show the artificial water system of canals, in connexion with the natural water system of rivers. A map of roads, with all the great towns indicated, and all the seats of manufacturing industry, would also be necessary; and other maps no doubt might be suggested. Such maps roughly executed would soon be produced at a very moderate charge, if a sufficient demand for them could be calculated on.

It is impossible, in our opinion, to urge too strongly the importance of an exact knowledge of *position* on the earth's surface. This knowledge is not only the true basis of all geographical knowledge, but it is an indis-

geology says—that the Pyrenees, the Apennines, the mountains of Dalmatia, and Croatia, the Carpathians, and the Alleghanies of America, are all parallel to an arc of a great circle, which passes through Natchez and the mouth of the Persian Gulf; of course they are also all parallel to one another. Such an assertion can hardly be surpassed for absurdity.

pensable element in every science which has for its object the observation and the *comparison* of natural phenomena in different parts of the earth. Without this knowledge the geographer has laid no foundation for his further pursuits, and the inquirer into nature will often fall into error, which may sometimes seriously affect his conclusions.

Next to the teaching of the general outline of countries, with their mountains and rivers, the most important thing is *climate*, or the comparison of meteorological phenomena as ascertained at different points of the earth's surface. This should, of course, be preceded by exact notions of the phenomena of the seasons, the length of day and night at different points on the earth's surface, the modes of determining the four cardinal points at any place, with the determination of the sun's angular distance at rising and setting from the east and west points at any season of the year, &c., the mode of measuring the shortest distance between any two points given in position on the earth's surface, reducing magnetic to true bearings, &c. Without this preliminary knowledge we do not see how the subject of climate can be treated satisfactorily, even in an elementary way. It would also furnish opportunities for giving a student a variety of easy problems, to the solution of which he might apply his mathematical acquirements.

We have already excluded the geographical distribution of plants and animals from the province of the geographer, with an earnest request to botanists and zoologists to look carefully after them, for nobody else can do it so well. But it does not follow that, in teaching the great principles of geography, these considera-

tions should be entirely excluded. Plants and animals are, to a certain extent, the indications of climate; and it is a matter of curiosity and of great interest to compare different points of the earth's surface, similar in position, but differing in products, which may often be the indication of some modifying cause of climate not hitherto investigated. If it were possible either in schools or colleges for such instruction to be given by a botanist and a zoologist, we are of opinion that it would come better from them than from the geographer. But till science be more subdivided with the view of improving it, it is much better that the geographical distribution of plants and animals should be treated of, even imperfectly, by the teacher of geography, than that so useful and attractive a branch of knowledge should be entirely neglected in a course of liberal instructions.

ON GEOGRAPHICAL AND STATISTICAL KNOWLEDGE.

By A. VIEUSSEUX.

(From the Quarterly Journal of Education, No. XIV.)

Statistics, a term first introduced by the German writers, was defined by Achenwall, of Göttingen, to be the exposition of the effective components of any political society. This definition may perhaps be objected to by some, and indeed German writers are not yet very well agreed among themselves as to the definition of the term Statistics. Our object in this article is not to determine the exact limits of statistics, but simply to show the kind of information which is absolutely necessary for understanding the social and political condition of a country or nation; and having this object in view, we think that the term "political geography" expresses more nearly than any other that kind of knowledge of which it is our present purpose to speak. Political geography is the foundation of all political science, for unless we know the present condition of a country and its people, we cannot possibly reason correctly on their wants and wishes, and on the reasonableness of those wishes, or the means and chances there may be of satisfying them. This seems a truism, but it is a truism so often disregarded, that we think it necessary to assert it here as a proposition, the importance of which it is our object to demonstrate. The geographer, or statistician, gives the facts; the politician, the jurist, and the moralist, reason and speculate upon them.

But unless the facts be accurately stated, it is evident that all arguments drawn from them are inconclusive. Political geography is therefore a science of facts, and not of hypothesis or speculation; it shows things as they are, and leaves to others to decide whether they ought to be so, or are likely to remain so.

The elements of the condition of a country are of two kinds, natural and artificial. The former, which belong properly to physical geography, are, its extent and coast-line, the configuration of its surface, its position on the globe, and its climate, its boundaries, and the nature of the countries or seas which border on it, the quality of its soil, and the character of its rivers, its natural productions, whether mineral, vegetable, or animal, and lastly its population. The artificial elements, which, being the work of man, are temporary and susceptible of modification, or even total change, consist of the dwellings of the inhabitants, their agriculture, and other branches of industry and trade, which constitute the wealth and capital of the country; the civil and political institutions, the social habits of the people, their religion, and language.

It is the business of political geography to furnish data to show the influence which the various elements above mentioned exercise upon the intellectual, moral, and economical habits of a people, and upon their political condition. The natural or topographic elements of a country being mostly permanent, their influence may be calculated according to certain rules. Thus, for example, the civilization of Europe has been greatly promoted by its geographical position, its temperate climate, and its peninsular form indented by two large inland seas, the Mediterranean and the Baltic, and by

numerous gulfs and great rivers, all which circumstances must have facilitated colonization at first, and social intercourse and trade afterwards. Africa, massive and unbroken in its shape, with few navigable rivers, a burning climate, and vast deserts, has remained for the most part uncivilized to this day. And in Europe itself, which are the countries that have been most forward in civilization? Greece, Italy, and England. Greece, indented by numerous gulfs and creeks, surrounded by clusters of islands, affording numerous natural harbours, and placed on the threshold of Asia, and in a fine climate, was most favourably situated for commerce. Italy, long and narrow, with an extensive line of coasts, but with few bays or natural harbours, is inferior in this respect to Greece, while the want of tides in the Mediterranean sea renders the rivers nearly useless for the purpose of ship navigation. It is in great measure the want of natural harbours that has made Italy inferior in maritime commerce to Greece and to England. On the contrary, Greece is not so rich an agricultural country as Italy; she has not such an expanse of well-watered plains, nor so many fine valleys; her mountains are more rugged and bare. And in Italy itself, we find that Venice, seated on her group of islets, forming natural harbours and canals, soon felt the influence of her position, and consequently became the principal maritime power of Italy, and in latter ages the only one. Man may do much to correct local disadvantages, but he can seldom wholly conquer them. In some cases, the geographical advantages remain neglected, through the agency of other causes, but these are exceptions, and not the rule. The coast of Dalmatia, with its numerous bays, inlets, and islands, is

excellently situated for maritime trade, but Dalmatia having always been a dependency of other states, first of Venice, jealous of its commercial monopoly, and lately of Austria, its resources have remained comparatively neglected, and it has not derived the advantages which might have been expected from its geographical situation. Yet the Dalmatian sailors are the boldest and best in the Mediterranean, while on a spot of its coast where an independent state long existed, Ragusa was a centre of trade and maritime enterprise. So true it is that geographical position will determine the industry of a country, if not trammelled by external circumstances.

Navigable rivers are the great arteries of social life. The free towns of Germany during the middle ages, and those of Holland, are instances of this. What makes the striking difference between Egypt, where civilization is older than history, its origin being lost in the obscurity of the mythic ages, and the rest of Northern Africa, which, in spite of so many colonies and conquests from different nations, still remains in the same wild half barbarous state as it was two thousand years ago and more? The Nile has been the great civilizer of Egypt, while Numidia and Mauritania, mountainous, and destitute of large navigable rivers, have never admitted civilization to penetrate far into the interior. Again, Spain, square and compact in its shape, with hardly any navigable river, and its centre forming a high naked table-land, labours under great obstacles to internal communication, and accordingly has never been a great commercial country; while Portugal, narrow, with a long line of coast fronting the Atlantic Ocean, and two noble æstuaries, the Tagus and the

Douro, was for ages one of the great maritime powers of Europe. In the bleak north, the coast of Norway, with its innumerable ports, has been always a nursery of bold seamen. Manufactures may prosper in countries remote from the sea and from navigable rivers, and even on the mountains of Switzerland, as manufactures chiefly depend on the supply of fuel and water, and of the raw materials, which often are produced near the spot. In the case of bulky raw materials being brought from distant parts, the disadvantage of a remote internal manufacturing site is much greater. Those manufactures which, having these supplies at hand, are at the same time situated near the sea or a navigable river, must have a great advantage over all others. England unites all these requisites above every other country in Europe; its configuration, long line of coast, numerous natural harbours and navigable rivers, its inexhaustible supply of coals, its iron and tin mines, all these have established its supremacy in manufactures and maritime trade, and this supremacy it must retain as long as it retains its independence as a nation.

The natural elements of a country, by determining the industry of the people, influence at the same time their social and moral habits. The shepherd who grazes his flocks for one half of the year in the solitude of the Alps, the Apennines, and the Pyrenees, is a being of simpler habits, fewer ideas, and fewer words, than the labourer or artizan who lives in the crowded towns or villages of the plain. The nomadic Arab, being obliged to wander in quest of pasture for his cattle, lives constantly encamped, ever on the watch, and prepared for defence. He acquires habits of alertness and courage and of extreme sobriety. Milk and a few dates

are his general food. The Sheiks of the wandering Arab tribes, having no fixed habitations, no castles, or prisons, can only enforce their authority by popular consent. Hence the independent spirit of the nomadic Arabs, and the impossibility of conquering them, or at least of keeping them in subjection.

As we advance towards the pole, heat, as a general law, decreases, and the duration of daylight during one half of the year becomes more and more contracted: this occasions additional wants of fuel, warm clothing, and artificial light. The labourers of southern countries have fewer wants than those of northern ones, and therefore are less inclined to work hard. The precocity of women, and their early decay, in the countries near to or within the tropics, may account in a great measure for the custom of polygamy among many tropical nations, though polygamy is not confined to the natives of hot countries. The appearance of the sky influences the taste of the people for the arts. The sky of Greece and that of Southern Italy, their rich tints and brilliant appearance, the cheerfulness which they seem to spread over all nature, have impressed the people of those countries with a lively sense of beauty, and have contributed to form the style of their music, their poetry, and their architecture.

Climate affects the productions of a country, the habits of the people, and their commercial relations. The temperature of a country may be the result of the following circumstances: latitude, elevation of the surface, aspect or exposure to a particular point of the horizon, situation with regard to some great range of mountains, or to a sea or lake, prevailing winds, &c. The effects of mere latitude are often counteracted by

some other of the above causes: thus Bogota, Quito, and other places within the tropics, enjoy a temperate climate. The French side of the Pyrenees experiences a severer winter than the Spanish side of those mountains; the same difference exists between the Swiss and the Italian sides of the Alps. In Italy, the valleys on the Genoese and Tuscan side of the Apennines partake of the nature of southern countries; the lemon, orange, fig, and olive-tree grow there in full luxuriance, while the northern slope of the same range, in the countries of Parma and Modena, is subject to a long and bleak winter, and can raise none of the above-mentioned products.

The configuration of a country and the nature of its boundaries have a powerful influence on its political condition. There can hardly be a doubt that the insular position of England has greatly contributed to the preservation of its national independence. Where did Napoleon's armed myriads stop? On the shores of the British Channel, and on those of the Baltic Sea. It was the Baltic that saved Sweden from a visitation, after the conqueror had overrun Pomerania. Gioia, the Italian economist, observes that the Italian peninsula being long and narrow, with an enormous line of coast, is assailable on innumerable points from the sea; whilst on the land side, the line of defence formed by the Alps is weakened by the wide crescent form of that range of mountains, which offers numerous passes to invaders. Again, the great length of the same peninsula, intersected by the lofty Apennines, is a great obstacle to a unity of government, to the choice of a common capital, and to the amalgamation of its various populations. The difference in the climate, nature of the soil and

its productions, and consequently in the habits of the people, is very great between north and south Italy; Naples and Milan are countries quite different from each other.

Rivers and mountains are the common demarcations of political boundaries. Of the two, mountains form the more durable and secure line of frontier. Mountains generally separate races and languages, for the social and commercial relations of men mostly follow the direction of the waters that flow from each side of a mountain range. Hence arise similarity of interests, habits, sympathy, and a feeling of mutual defence.

A knowledge of the local circumstances of various countries is essential not only to the statesman and the politician, but to the merchant, the traveller, the soldier, and the general student. The merchant, by being acquainted with them, will avoid bad speculations, such as sending to tropical climates goods which are only fit for northern latitudes, for instance, stoves and thick woollen cloths to Brazil, and even, as we have heard it asserted, skates to Buenos Ayres, where it never freezes. Such blunders could only take place where men were very ignorant; and though they might not occur now as to places known by experience to the merchant, we may safely say that, if the whole coast of China were at once opened to foreign trade, very few mercantile men would be sufficiently masters of such facts as are already ascertained about China, to make a profitable use of them. A similar want of knowledge occasioned ludicrous but expensive mistakes in the mining speculations of Mexico and South America: steam-engines were sent to be worked on the mountains, in places almost inaccessible, where there was no fuel to put them in

motion, and no timber suitable for the most necessary purposes. Napoleon committed a great statistical error by remaining at Moscow after the town was burnt, and till the winter set in. He became convinced, when too late, of the fact that men and horses bred in a more southern latitude, and in the more western parts of Europe, cannot bear exposure to a Russian winter. By a knowledge of localities, blunders will be avoided in speaking or writing, such as talking of the trees bearing fruit in Biscay in the month of March, or of the smiling plains of the south in summer, where the fields, unless they can be artificially irrigated, are parched and withered by a burning sun. With regard to southern countries, people are too apt to indulge in gorgeous visions of a luxuriant vegetation, odoriferous groves, of seas ever blue, weather always genial, and breezes ever soft; they forget the summer drought, the want of water, the torments of thirst, the clouds of dust and sand, the swarms of flies, musquitoes, and locusts, and numerous poisonous creeping things, the summer storms and hurricanes, the scirocco and the khamsin, the malaria exhalations, the enervation produced by the climate, the consequent indolence of the people, and their early old age; they forget that a sun constantly bright in a sky constantly blue, month after month, produces at last a sense of weariness as great as that occasioned by a gloomy northern winter, and that the appearance of the equinoctial clouds, slowly and darkly piled one above the other on the verge of the horizon is as welcome to the inhabitants of those latitudes as the first warm days of spring to those of the British isles. The author of "Recollections of the Persian Gulf," quoted by Balbi, observes that the brilliant descriptions which several

writers have given of the south of Persia are most erroneous, although the authors of those descriptions cannot be charged with wilful deception, for they do describe things that exist, only they colour them so as to render it impossible to recognize them.

"Isles of palms, and banks of pearls, vine arbours, and groves of pomegranates, all these appear brilliant, fresh, and balmy, in the recital, but how different the reality! The groves of palms are stunted, straggling plantations, the pale and faded green of which is hardly distinguishable from the tints of the naked rocks which surround them; the pomegranates are covered with white dust; the pearl banks are heaps of oyster shells exhaling an infectious odour; the crystal springs are brackish water; the breezes are suffocating; and the vases containing melted rubies are nothing more than bottles of Shiraz wine, which tastes like bad port mixed with beer, with a piece of dirty rag for a stopper. Such are the attractions of the shores of the true Persian gulf—shores desolate and barren, under an atmosphere which withers every thing."

One consequence of these exaggerated descriptions is that travellers, on visiting the spot to which they refer, and finding themselves disappointed in their expectations, often run into the opposite extreme, and pronounce every thing detestable, the sky, the climate, the country, and the people. And persons who have not travelled, hearing such discordant accounts, become doubtful of truth altogether, and assume a sort of sarcastic and contemptuous scepticism concerning every thing connected with foreign countries, which they mistake for wisdom.

If we pass from the natural to the moral causes that

affect the condition of a people, we find the difficulty of ascertaining truth greatly increased, for here even personal observation is not sufficient, as every observer sees through his own peculiar medium. The mora elements of a state may be reduced to three heads: political, civil, and religious institutions.

The political institutions of a country include its legislative and executive powers, its political divisions and their administration, its financial system and mode of taxation, its military and naval establishments, &c. The civil institutions are,—the judicial, correctional, and police systems, the establishments for education, both elementary and superior, and the municipal or communal administration. All these departments and their ramifications are too often jumbled together under that most vague, unsatisfactory denomination, "government." Civil and political institutions are confounded together; no distinction is made between the administrative, the judiciary, and the municipal powers; we are told that, in one country, the monarch, in another the representatives of the nation, make the laws; but frequently we are not told to whom the administration of these laws is intrusted; and yet it is a fact that it is less on the laws themselves than on the manner in which they are administered that the welfare or misery of the people depends. No particular form of government is sufficient of itself to ensure the security and prosperity of a nation. All forms of government can be abused; an ignorant or corrupt majority may render a democracy insufferable to all honest men; and monarchy, in the hands of weak, ignorant, or wicked rulers, may bring ruin upon a nation. It is now generally understood that Prussia, although in its form an absolute

monarchy, is one of the best administered countries, and its people one of the best informed in Europe, owing to its universal system of popular education. Such is its present condition; it ought to be observed, however, that, under an absolute form of government, there can be no guarantee for the future continuance of an upright and enlightened administration. This is the great drawback; but at the same time, where the people are generally educated and moral, flagrant abuses can hardly occur; and if they should occur, they cannot be of long duration, for they would, in fact, bring about a change in the form of government.

"In Prussia," observes M. de Chambray, in his 'Notes' on that country in 1833, "the king, although called *absolute*, is in reality less so than the king and the ministry of France. He is not obliged to procure the approbation of the chambers, because there are no chambers; but he is obliged to obtain the tacit approbation of the nation, and of all the civil and military functionaries who owe their offices either to their merit as displayed in rigorous examinations, or to the suffrages of their fellow-citizens. The king could not engage in a war reprobated by the nation; he could not bestow the first employments in the administration on a mere favourite; and he could not make unjust promotions in his army."

When to these considerations we add the institution of the *landwehr*, or national militia, and the existence of the provincial assemblies, who give their advice on matters affecting their respective provinces, we find that we cannot class Prussia among despotic governments, although we think we can perceive too much of a military spirit in its organization. Dr. Hassel, in his

'Statistics of the European States,' draws a distinction between autocratic, or absolute, and despotic states. "A despotism," he says, "in the proper sense of the word, could not exist in Christian Europe in the present state of civilization. Even the most unlimited monarch is bound in some degree by the old laws and customs of the country, and still more by the feelings of his subjects, and by public opinion." Pure despotism is only to be found now in Asia. The Shah of Persia is more despotic than even the Turkish Sultan.

The judicial system forms a most important element of the condition of a people. In order to judge of it, we ought to know something of the written law of the country, of the formation of the courts, of the qualifications and authority of the judges, and by whom they are appointed and paid; also of the practice of the courts, the forms of trial, the modes of punishment, the regulations of the prisons, &c. Few geographical and descriptive works give us any idea of all these matters; and yet the security, the personal liberty, the property of every individual, are dependent on them much more than on the political form of the government. The Swiss republics, which have enjoyed political freedom and independence for five hundred years, have had all this time a most wretched judicial system. The judiciary power was often confounded with the executive. The punishments were barbarous; the pillory, branding, and flogging, were in use; torture was frequently employed, imprisonment and banishment arbitrarily enforced, suggestive interrogatories and other modes of extorting confession were in use,—in short, all the iron code of the Gothic ages was in vigour. It is only within a few years that some of these barbarous practices have been

abolished. The same vices existed in the Italian republics of the middle ages, and in those of Venice and Genoa till our own time; Tuscany, on the contrary, under the absolute rule of Leopold, obtained an excellent code of laws. But it is not enough that the laws be good; they ought to be justly administered. The best laws are of no value if those who administer them are corrupt; and this shows the importance which ought to be attached to the choice, qualifications, and independence of judges and magistrates. Again, the civil, criminal, and commercial laws ought to be examined separately, as well as the mode of proceeding before the various courts, or what the French style *code de procédure.* There are many people who talk of and extol the Code Napoleon, who probably are not aware that there are five distinct codes included under that name, two of which, the civil and the commercial code, really deserve praise. The penal code is vicious in many respects, and bears the mark of the arbitrary spirit of the ruler under whom it was compiled. Penalties are disproportionate to offences, and many enactments, especially those concerning the conscription and offences against the state, are tyrannical. The sentence of confiscation, which accompanied that of death in several cases, was abolished only under Louis XVIII. The penalties against associations, or assemblies, literary, religious, or political, consisting of more than twenty persons, remain in force. The punishments of vagrants and mendicants are harsh beyond reason and justice. The code of "criminal instruction" or proceedings does not always ensure a fair trial; we can only refer the reader to the collection of modern "Causes Célèbres" for an illustration of this. The discipline

of the prisons is sadly defective, in common with that of most other countries, but the treatment of the convicts sent to Toulon and Brest is truly revolting to humanity. The laws concerning insolvent debtors are very harsh, especially with regard to foreigners. The *code de procédure civile* also is encumbered by numerous forms and technicalities, to which in many cases right is sacrificed. *La forme l'emporte sur le fond*, as we have heard French lawyers remark. Under all these regulations, very dissimilar in their spirit from the political principles recognized in theory, individual liberty is practically very circumscribed in France. Police measures interfere at almost every step with the free agency of the citizens. This shows the necessity of discriminating between the laws and their administration, between theory and practice, between civil and political liberty, in order to ascertain the real condition of a country.

The municipal or communal system of a country is another essential part of its social condition, but generally the least attended to. Historical and political writers are very minute about the higher branches of the general administration of a country; they tell us of kings and councils, of parliaments and representative states, of ministers and governors, of finances and the military force,—in short, they exhibit to our view all the great scaffolding of the central government, but leave the humbler machinery of the local administration of the country towns, districts and villages, communes and parishes, generally unnoticed. And yet how much of the peace and comfort of the great mass of the population, especially the rural part of it, depends on the proper arrangement of these matters. How many

families may be injured, how many humble beings, men and women, may become broken-hearted, and their prospects blasted, by a tyrannical municipal or local authority left uncontrolled. People of simple habits or conditions, such as the agricultural populations mostly are, care much more about their justice of the peace, their priest, and the local collector; the manner in which the local taxes are levied and employed; the regulations about their markets, roads, and public-houses, than about questions of general government, which they do not understand.

"The bond which unites together the inhabitants of a commune," says an enlightened living French writer,* "is real, and more powerful than laws; it is the result of hereditary habit: the peasant loves the steeple of his parish church; the recollections of his life are centred in that church: in the adjoining burying ground his fathers lie interred. The cross-roads lead to the parish village. The peasant is attached to the curate who performs the service every Sunday; who has christened and married him: he would not like to take his child to be baptized, or send his boys to school, in the next village; a feeling of self-love, a sort of narrow patriotism, binds him to the little world around him."

It is the remaining system of *ayuntamientos* and the popular election of the alcaldes that has kept up the spirit of the Spanish peasantry under all the weight of despotism, bigotry, and the inquisition. As long as the alcalde was one of themselves, who knew their habits and their wants, and was controlled by the popular voice, the Spanish peasantry cared little who was minister at Madrid, or captain-general in the pro-

* De Barante, *Des Communes et de l'Aristocratie.*

vince. And it is remarkable that in some of the most absolute monarchies that grew on the ruins of the feudal system, the principle of popular election in the rural districts has remained most firmly rooted, and has proved in reality most useful as a protection to the great mass of the people. It was, and is still found in the Papal and Neapolitan states, trammelled though it be, and gradually encroached upon by the central power; the Venetian senate maintained it in Frioul, and other conquered provinces; and it exists now where a superficial politician would least expect it, in Turkey.

The conquest by the Turks swept away all privileges, all monopolies, and likewise all disabilities from among the conquered races, in those districts which submitted unconditionally: the inhabitants selected from their own body the fittest persons for filling the office of assessors, collectors, and cashiers: for the collection of the taxes or tribute was the origin of the municipal bodies throughout the country. The absence of all exclusion and restriction under the common yoke left no grounds for strife: all had an equal right of suffrage, and the only question at issue was the personal merit and character of the individuals to be chosen. The Turkish system of direct taxation prevents what we should consider opposing interests from clashing together. Public opinion is made manifest through the public voice, and the elections are concluded in a few minutes, either in the church after the service, or under the village tree, without agitation and without formality. The elders when elected hold their office for one year, yet they may remain in office for years, or even for life, without re-election; but if they lose the public confidence, no re-

turning day of election is waited for—they are immediately ejected, and successors appointed. Their principal functions are,—the apportioning the tax imposed upon the whole community to each individual according to his property. They must, therefore, be accurately acquainted with the property of each member of the community, his means of livelihood, his profits, and his industry. It is their duty, by timely counsel, admonition, or reproof, to prevent the negligence, inactivity, or misfortunes of any individual from adding to the burthens of the rest. They assess and collect the poll-tax, house-tax, and land-tax, and many others, which, in their mode of collection or repartition, vary in almost every village, but always depend on a scale of property. They manage the municipal funds with which they pay for lodgings and provisions afforded to Turks, soldiers, couriers, &c., passing through the place; for presents or bribes to governors, and other incidental expenses; also the interest of the debt with which almost every community in Turkey is burthened. Their civil functions are the following. They distribute lands left uncultivated, or without an heir. In transactions between merchants and members of the community for cheese, butter, wool, cotton, or any other produce, the contract is legalized by the signature of one or more of the elders, who thus become security for their townsfolks. Purchases are only legal when witnessed by them. Together with the priests, they decide on all disputes, settle disputed water-courses and successions, and maintain a species of government rather preventive than repressive. The office of arbitrator or judge belongs more particularly to the priest. In the provinces, the bishop is judge of the Christians; by his *berat*, his judgment is final

in matters of marriage and divorce. In secular matters they are guided by the pandects. In the small communities or rural districts the priest is judge in matters which are not of sufficient importance to be carried before the bishop. The Mohammedan law is not in operation among the rayas, except in matters in which Turks are concerned; and these are few, as Mussulmans and rayas cannot be mutually trustees, guardians, &c. Although the Turks do not recognize any judicial authority, save that of the Mussulman Cadi, imperial firmans granted to several districts expressly forbid all interference with decisions which have been given by any arbitrators whatever, chosen by mutual consent of the parties. The Turkish law necessarily interferes only in cases of public violence.

"These institutions alone," adds Mr. Urquhart, from whom we have extracted the above interesting particulars, "could have preserved to the Greeks their astonishing uniformity of character, language, and creed, and produced their submission to the Turkish dominion. Every individual is a guarantee for his neighbour's obligations, a security for his person, and consequently a censor on his condition and morals. It is not the influence of the priesthood, or even of religion, that produces their firm adherence to their creed; it is respect for the opinions of the little community to which they belong, it is the moral authority, the support of fellowship and friendship that results from the close pressure of man and man, and the strong linking of interests, and opinions, and affections, under the municipal bond, which is the only law of the Turkish raya." —*Turkey and its Resources*, p. 23—39.

This municipal system is common to the Greeks,

Armenians, and Bulgarians. The Albanians, Guegues, Bosniacs, Croats, and Sclavonians, do not possess these institutions, but have ever been subject to odjacks, knezes, and beys, or military chiefs.

"Amongst these races, men, instead of coalescing, seem to fly each other; no villages are to be seen huddled together, but insulated *soïs*, or clans, have perched their little towers of defence among the rocks, and scattered them over the mountains. The Mirdites alone enjoy a species of autonomy; they also retain their creed. In fact, through all the modifications of climate, position, and race, the original creed co-exists with the autonomic institutions; and in the absence of these, Islamism is found. The descendants of the warriors of Scanderbeg and the defenders of Scodra are now Mussulmans; the next to impregnable fortresses of Colonias, Dibre, &c., where military chiefs held their ground, have readily admitted the supremacy of the crescent; the plains of Thrace, devoured by locusts of functionaries, trodden down by the unceasing passage of fanatic hordes, but where distinctions among the tributaries were swept away, still cling to the cross."—*Id.* p. 43.

In studying the history of municipal bodies in western Europe, we ought to distinguish between the urban municipalities or chartered corporations of the middle ages, and the rural municipalities, or rather commonalties. The former arose in the towns or burghs out of the chaos of feudality, and were unconnected with the surrounding country. They represented imperfectly the ancient Roman municipia, from which they took their name. They enjoyed privileges and monopolies rather than liberties, and this was at the expense of the country around. Such were the imperial towns; and

such several of the Swiss republics, Zurich, Bern, Basle, Freyburg, remained till very lately. In Italy, France, Spain, and other monarchies, the urban municipalities lost their privileges; the crown, having once conquered the nobles, attacked the immunities of the towns, and assumed the right of nominating the municipal authorities. But the rural districts were left in most of these countries undisturbed in the enjoyment of their popular administration, and this was no small boon to them. In France, strange as it may sound, all municipal and communal independence was destroyed by the republican constitution of 1795. It was sacrificed for the system of centralizing all administrative power in the capital, which has remained in vigour ever since, and was introduced by the French into the countries which they invaded. The attentive observer and investigator of all these and similar facts will easily account for the apparent anomalies in the conduct of the peasantry in several parts of Europe during the political vicissitudes of the last forty years.

The religion and religious practices of a people are matters of too serious importance, they exert too great an influence over its intellectual and moral habits, to be passed over slightly by any wise man. In themselves they cannot be fit objects either of blame or ridicule, for in most cases they are above the choice or control of the individuals who profess them. To the political geographer they are essential facts, which he must take into account, together with their ascertained consequences, in his estimate of the condition and capabilities of a nation. Not only the religious belief, but the manner in which that belief is promulgated and enforced, and the influence which it has upon the civil and social state,

upon the domestic and economical habits of its disciples, ought to be noticed. The perpetual celibacy enforced upon whole classes of men, the abstinence from certain articles of food, the number of holidays, the moral censorship exercised in certain countries by the parish clergy, the religious regulations of marriage and divorce; the offerings, the dues, the sacrifices exacted by various forms of worship, the spirit of proselytism of some, and the intolerance of others, the fatalism of the Mohammedans,—all these are facts which influence the condition of millions. The shallow-minded scoff at them; the attentive observer acknowledges their power, discriminates between their evil and their good effects, for there is hardly a form of religion that has not some good points about it; and if he be a right-hearted man, he will pity the aberrations of the conscientious votary, while he will expose the hypocrisy of the wilful impostor. Connected with the subject of religion, although distinct from it, is the establishment for its worship. The number of the clergy, their mode of education and ordination, their various ranks and gradations, their relations with the other classes of society, their means and mode of living, the distinction between those who have the charge of churches, parishes, or districts, and those who are without any fixed duties; between those who live in communities, such as monks, friars, dervishes, &c., and those who live alone, either single or with their families; the amount of their income, collective and relative; the establishments appropriated to their instruction—all these are subjects of inquiry for the political description of a country, as well as the division of that country into parishes and dioceses, the number of churches and temples, and the mode of religious and moral instruction

afforded to the people. Statements concerning these matters should be made upon authentic authorities, when these can be obtained, and not vaguely exaggerated or distorted after the manner of an absurd estimate which found its way not long since into several periodicals and newspapers concerning the clergy of Spain, in which the number of Spanish archbishops and bishops was stated to be above 700; the parishes 127,000; the convents and monasteries 181,000; and the monks, nuns, and secular clergy, in round numbers, about 1,000,000, that is to say, about nine times as many as the reality. A single glance at the map of Spain might have shown the impossibility of the thing. The mere knowledge of the gross amount of the population of the peninsula would have shown the fallacy; every third grown-up man, according to this statement, must have been a priest or monk. The mistake has arisen from having confounded the statistics of the whole Spanish monarchy, with its immense foreign possessions, in the time of Philip II., with those of Spain in the nineteenth century.

The importance of education, elementary and scientific, school and collegiate, its immense influence over the moral, domestic, and economical habits of the people, and their social and political condition, cannot be doubted by any person of common sense. In a geographical inquiry, due attention should be paid to the difference between the establishment for popular and elementary education, of which all are susceptible, and which all ought to have in a well-regulated country, and those appropriated to scientific instruction, which, in the actual state of society, can only be administered to comparatively few, the manner in which those various

establishments are administered, the funds by which they are supported, &c.

And lastly, political geography should consider the population of a country with regard to its descent or race, and its language. Without entering into the question of the origin of races, it can be safely asserted that various nations have each peculiar features of character and disposition. Some of these appear to proceed from the climate and nature of the country, while others are retained even after emigration. Some races are lively, others sober and calm, some rash and impetuous, others thoughtful and cautious; some are impassioned and amorous, others phlegmatic and cold. These are facts which, when generally ascertained, ought to be stated, as they may exert considerable influence on the political condition of a people. Language is another important element of geographical classification. It generally, but not always, accompanies the distinction of races, and also frequently determines their political boundaries. Populations speaking different languages, or at least languages of different origin, will seldom voluntarily amalgamate. Language is the reflexion of thought, it is the mirror of the feelings and sympathies of a people. Ignorance or carelessness of these distinctions in a reasoner on general politics produces an unpleasant discord to the ears of the better informed, and spoils the effect of his otherwise plausible arguments. We will quote one instance out of many. In the late contest between the Sultan and Mehemet Ali, Pasha of Egypt, Ibrahim, Mehemet's son-in-law and general, while besieging the fortress of Acre, being asked how far, after the taking of that place, he meant to advance, is reported to have answered, "As far as I

can make myself understood in Arabic." Arabic is the prevailing language in all Syria, as far north as the chain of Mount Taurus, which divides that country from Anatoli, or Asia Minor, where Turkish is the language of the country. This expression, so graphic and so significant, has been completely spoiled in a paper on the present state of the Turkish empire, which appeared some time since in a contemporary Journal. The writer puts the above words in the mouth of Ibrahim, not at Acre, where he had still a vast tract of country before him where Arabic is spoken, but at Konieh, after his victory over the grand Vizier in the centre of Asia Minor, where Turkish is the language of the people, and where, therefore, the sentence would have been absurd, as Ibrahim had left far behind him the boundaries within which Arabic is spoken. He had crossed Taurus, and advanced into Asia Minor, in order to oblige the Sultan to give him the countries in which Arabic is the language of the people, and into which he withdrew as soon as the demand was granted. The distinction is more important than it would seem at a first glance. The power of Mehemet Ali is essentially Arabian; it is supported by Arab troops; and his dominions extend over a country in which the Arab language and race have been long predominant from the time of the Caliphs; while the Ottoman's direct dominion on that side extends chiefly over countries where the Turkish and Turcoman races who came from Tartary are become indigenous. It is, therefore, a clearly marked ethnographic as well as geographic division, and, as such, likely to prove permanent.

We have now briefly stated the various branches of geographical information, which are necessary in order

to constitute a man thoroughly acquainted with the actual condition of any given country. We do not mean to say that they can all be attained in every instance, and we do not intend to discourage our readers, if they should find that in many cases much of this information is beyond their reach; let them endeavour to obtain as much as they can of the information above specified; the more they collect, the better qualified they will be to form an opinion. But to imagine that, without taking pains, without making any of the inquiries alluded to, by means of mere vague information gathered from indiscriminate reading, from conversational hearsay, from scraps of newspapers and travellers' sketch-books, a man can be enabled to talk pertinently about a foreign country, and pass his judgment on the people, is a fallacy which strikes us as most palpably absurd.

With regard to the sources from which geographical and political information may be derived, we may remark that professed statistical works, which are now fast multiplying in most European countries, and which give the various heads that we have noticed, ought to be consulted in preference to mere desultory and general descriptions which are deficient in classification. For each particular country, statistical works by natives of the same, where such can be obtained, ought to be preferred. And on this occasion we cannot too much recommend the study of foreign languages, as a most useful medium of correct information on foreign matters. It is almost impossible to ascertain many facts without applying to native authorities. Maps are another indispensable auxiliary for obtaining correct geographical knowledge. There has been, till lately, a

great deficiency in this respect; maps were generally bad and dear. There are now very good maps published in France, Italy, Germany, &c., of the various divisions of those countries; but they are difficult to be obtained in England, and they are expensive. The maps published by the Society of Useful Knowledge have been constructed on the best existing authorities, and their extreme cheapness makes them accessible to almost every one.

We would now, in conclusion, address ourselves particularly to *writers* on foreign countries, whether geographers, travellers, essayists, novelists, or contributors to periodicals. We would impress upon them the propriety, the necessity, of discriminating and ascertaining facts, before they put forth their statements; of making use of the art of a critic in examining their authorities; of avoiding generalities and the use of superlatives; and of such hackneyed epithets as "barbarous, slavish, fanatical, bigoted, lazy, cowardly," which are seldom applicable to whole nations, at least within Europe; of stating facts before opinions, and, when they have no facts to state, of not dealing in surmises and hazarded inferences. We have already exemplified our remarks on this subject in speaking of Italy*; we may do it again with regard to other countries, for we think it is our duty to combat error under whatever shape it may show itself. No national or political partiality ought to stand in the way of truth, for error can never be a good auxiliary even in a good cause. We would impress upon all writers a due sense of the responsibility which they incur by propa-

* See Nos. IV. and VIII. of the Quarterly Journal of Education.

gating erroneous or hasty judgments and opinions. Men should be even more cautious about what they write than about what they speak; but we fear the reverse is most commonly the case. What is said in conversation is often unheeded, and generally forgotten; while everything that goes forth in print is sure to attract the attention of many, perhaps of thousands, and to be remembered by some. Hence the mass of prejudices, already, one would think, sufficiently great, is daily increasing. And that prejudice will bring forth practical mischief, who can doubt? In these times, when most people read something, the danger becomes much greater. In countries where a great proportion of the people take part in political questions, and have a voice, although indirect, in the legislature, who can calculate the consequences of erroneous impressions spread among them concerning other countries? It is not the first time that nations have waged destructive wars against each other through irrational prejudices which they had imbibed from their parents or teachers. At all events, war has ever been carried on in a deeper spirit of atrocity when one or each of the parties looked upon the other as barbarians, slaves, or infidels. Witness the wars of Rome, those of the Turks, and others which we might mention. Men feel little compunction in tormenting and exterminating those whom they consider as a degraded race.

STUDY OF NATURAL PHILOSOPHY.

By A. DE MORGAN.

(From the Quarterly Journal of Education, No. V.)

One of the first things which will strike an observer of modern education is the fact, that there are now few young people, in the middling and upper classes, who do not early receive some explanations, or what are intended for such, of the phenomena of nature. Not only do most parents conceive themselves qualified to give their children the first lessons in physics and astronomy, but the works of amusement which are so constantly in the hands of little boys and girls generally contain some information on the subject. Since it is certain that the reasons and methods of arguing which are applied to sensible phenomena are more likely to obtain a hold on the mind of an infant than any other whatever, it will appear of considerable importance to all who rightly estimate the force of early impressions that the first inquiries on this subject should be answered in a rational manner. To many it appears of little consequence what a child learns, as long as he is, in the common phrase, kept out of mischief. On this head we commence with a few observations.

It is often assumed that the most important object of education, namely, the formation of character, is entirely attained by teaching the principles of religion and morality; that is, it is not suspected that the manner in which other things are taught to the child has any

effect upon the *moral* feeling of the man. It would be thought ridiculous by many were we to assert that evil is often chosen in preference to good, not from any lack of desire to do what is right, but from a want of means to distinguish clearly, in difficult circumstances, where the proper course lies. This opinion we are, notwithstanding, disposed to maintain, even to the extent of saying, that more evil is done by misdirected than by dishonest views, and that the accumulated mischiefs arising from error are of greater prejudice to the advancement of society than those which have their origin in abandonment of principle. There are but few who can say that the greatest portion of detriment which has arisen to them out of the conduct of others has proceeded from malignant or dishonest intentions. This being admitted, we must look for the rise of much evil to some other source than intentional departure from the principles of morality; and we have not far to go, if we recollect that the rules which are laid down for the guidance of any one member of society in his multifarious dealings with the rest are few and general, frequently misunderstood and as frequently misapplied. The first arises from the vague and erroneous use of words, the second from the want of habit of seizing all the circumstances of a case, and of reasoning correctly upon them. And this being the state of the majority of mankind, the criminal designs of one may be advanced by the errors of thousands. Thus a potentate, who incites his people to slaughter, declaring that God is with him and will fight against his enemies, utters his blasphemous nonsense in the conviction, that, of all whom he addresses, the few who have been taught to think are no match for the many, high and low, who are incapable of any such exercise.

At this moment we see hundreds on the verge of crime and misery,* because they cannot see through the misapplication of a few words. Never was there a time when it was more clearly shown that ignorance produces as many disasters as malevolence; and though unfortunately it is not yet universally true that better principles of education have reached the lower as well as the middling and upper classes of society, yet the obvious good effects of enlightenment, where it exists, upon the former should tempt those engaged in the instruction of the two latter to inquire, whether all the good which is attainable is yet attained, and whether there is not room for suspicion that the bad habits of mind, which, in their extreme state, lead to such fearful results, have always been producing a pernicious, though more quiet effect upon that portion of mankind which is supposed to have better opportunities of instruction.

The first education of children, though not formally called by that name, consists in the answers which are given to the numerous questions put by them on the nature, object, and cause of every phenomenon which catches their attention. The intelligent, and frequently unanswerable, inquiries of an infant, whose thoughts have not yet been chained by our common routine of expressions, and whose appetite for investigation has not been destroyed by receiving only words where he looked for ideas, furnish a lesson of no small profit to the philosophic observer. The first impulse given to mental action is the result of an instinct of curiosity, a desire to search to the very source the cause of all that is seen and heard. Hence children of any intelligence break

* This was written at a time of great political excitement, when there were people who imagined that a conviction that their own *rights* were attacked gave them a *right* to abolish the *right* of their opponents to live in peace in their own houses.

and destroy their playthings, in order the better to examine their construction; and here begins the *manège* by which they are converted from inquirers into machines. Parents and nurses reprimand their charges for the indulgence of this desire to learn, and repeat for the ten-thousandth time their wonder that children love mischief. Under this last emphatic word is included all that can give any trouble to an instructor, or by any means lead him to suspect that the desire of knowledge comes without his assistance, and all that is asked of him is the direction of it to proper objects. But since it is of consequence to repress this same desire of knowledge, and since the temper of the times no longer allows of accomplishing this object by force, either in boys or men, the method employed is to be provided with a stock of unmeaning words, mostly derived from the Greek, which are to be applied to the complete elucidation of all causes, final and secondary; the teacher endeavouring to look as if he understood them himself, in which, to do him justice, he generally succeeds. Above all, he must never fail of giving some answer to every question, since to confess ignorance would perhaps reveal to the child that he is neither to know nor to expect to know all things; and this is not expedient. If, by any means, he should be unprovided at the moment, he must tell the pupil not to "ask questions," which, next to the destruction of playthings, is the second great offence of childhood.

To see the manner in which words are applied to the extinction of the desire of knowledge, let us take an example of the contrary method, where they are used in a reasonable manner. In the "Lessons on Objects," reviewed in the first number of the Journal of Education

the word which expresses a quality is introduced in the following way. The attention is first directed to the quality itself, in repeated instances of its existence; the sensible idea actually presented is dwelt upon and expressed, if it may be, in common phraseology. The single word which denotes the quality is then introduced as soon as the want of it is felt, and not before. It will be observed that the word is made the *name* of the quality and not its *explanation*. The usual way to convey the meaning of a word is as follows: A child asks, "*Why* can I see through the window and not through the door?" The parent puts on the face of a Socrates, and answers, "*Because* the window is *transparent* and the door is not." The child is therefore led to think that a long word is a sufficient explanation, and, worst of all, that a new word is all he should look for in any case. He imagines that his papa knows everything, and that he himself will be as wise some day. Hence springs what is called the pride of knowledge, which is, in most cases, the direct consequence of ignorance. But suppose it should be thought worth while to tell him, in simple language, that the answer to the question, "Why," in the sense in which it is put, is in most cases impossible, in the present state of knowledge; that the word "transparent" is not the reason of the phenomenon, but the name of it; that we must know more about light and glass before we can pretend to explain *why* the first should pass through the second; that when he is older he may learn many useful and curious things about the two, but that, go as far as he may, there must always be some part of his question left unanswered,—would his knowledge be less, or would he be likely to make a worse use of it, than when he is left

to suppose that all the mysteries of nature are within his reach, as soon as he has got out of words of one and two syllables? The frequent misuse of the words "why" and "because" has produced a little work, containing many things which are true enough, but perverted by being formed into a catechism of questions beginning with "why" and answers with "because." For example: "Question. Why is ice broken before it is stored in wells? Answer. Because it may reunite in the interior." We say nothing of the method of teaching words as an exercise of spelling only; since, common as it once was, it is now, we hope, nearly exploded; and it is admitted, that he who knows nothing of such words as "transparent," except by t-r-a-n-s trans, p-a pa, r-e-n-t rent, transparent, can never be entitled to any other appellation than i-g ig, n-o no, r-a-n-t rant, ignorant.

But the evil is not by any means confined to the explanation of such qualities as are sensible; it runs through the notions of physics which are given to children to an extent which all will find some difficulty in correcting when they attain mature age. Granting that there are few grown people who would not, after a moment's reflection, agree with the censure in our last paragraph, we do not think there are so many who will coincide with us in what follows: We assert that the explanation of more complicated phenomena, as given to young people, is a traffic of unmeaning words, or, if there be any meaning, of errors and misconceptions. To prove this, nothing more is necessary than to recall the usual modes of elucidation, and particularly those contained in the story books of which children are so fond. We recollect distinctly seeing it asserted in one of these that the immortal Newton was the first who

discovered "why water runs down hill;" and we have a brilliant instance in the following, extracted from a book of very modern date. The first paragraph is most remarkably clear, and the second must show that the opinion entertained of the sagacity of Newton has a better foundation than is generally supposed. Talking of the rainbow, "All those drops which are situated at the same angle all round the eye will of course be of the same colour, and as different colours will arise at different angles, a bow composed of regular circles is a necessary consequence of showers of rain." "The colours of the rainbow thus beautifully described," alluding to a preceding quotation, "led our great philosopher to conclude that these colours, as well as colours in general, are produced by some property in rays of light." We could produce many others, but these are sufficient. The fact is, that a name, as before, is made to take the place of a cause: thus it is held sufficient to say that a stone falls to the ground, *because* the earth attracts it, or because there is a natural tendency in all bodies to fall to the earth. The pride of ignorance here prompts an explanation, which has no meaning whatever in the mouths of most of those who use it. They might take a lesson from the very children they teach, who will, when hard pressed for a reason why a thing is so, answer "Because it is." Let instructors and those who write explanations content themselves with reducing their ultimate knowledge of physical phenomena to deductions from the evidence of the senses, not seeking to penetrate nature for laws, which are only names given to collections of phenomena, and then laying down their laws *à priori*, and reasoning from them instead of to them. Let them reflect, that whatever

consequences may be deduced from the combination of principles, it is their business to ensure the right reception of the principles themselves, not as dogmas or truths obtained by an unknown or mystical process, but as inferences from sight, touch, and hearing, the most direct and most conclusive of which our nature is capable. The track which should be followed is that of discovery, the ability to pursue which is nearly universal, though the sagacity to mark it out is the gift of few. Having directed attention, for example, to numerous instances of gravitation, and shown that some things which appear to be exceptions are not really so, it is easy to say, that the name of gravity is given to the cause of all these phenomena, and that of this cause, its nature, or mode of action, we know absolutely nothing, and only use the name as a means of forming into one class phenomena which we have the strongest reason to believe arise from a common cause. This, when sufficiently developed to be intelligible to a child, would, independently of its being truth instead of fiction, have the advantage of giving a check to the nascent presumption which is the characteristic of so many semi-philosophers, who imagine that their catalogue of hard names is the key of the universe. Not that these are found in the front ranks of science; they are, in fact, the matured results of that tuition which explains the falling of a stone by one word, and are to be found in drawing-rooms and conversaziones, where doctrines may be heard from them something like the explanation of a steam-engine given by one of Horace Smith's characters, viz., "There is a thing that goes up and down, which is the hydrostatic principle."

To return to our subject: if it be objected, that this

is giving nothing but words, we answer, that it is giving words to notions already formed by the method of instruction, and that words thus obtained are a valuable acquisition. It may be urged, however, that after all the pains which have been taken to give a right perception of the use of terms implying causation, the pupil will in many cases attach something mystical to their meaning. It may also be said, that even the best informed, from habit and the tendency of the mind to rest its ultimate notions upon a cause, however obscure, commonly use the words as implying an unknown cause, though in reasoning they confine themselves to phenomena. There is much truth in all this: with regard, however, to the latter case, there is no great disadvantage, since the vulgar error does not enter into the speculations of the philosopher, who, in giving a common name to a collection of phenomena, does not bind himself to any hypothesis with regard to any new fact which he may observe. There is an instance somewhat similar in pure mathematics. The terms infinitely great and infinitely small are in common use, not as the attributes of any quantity whatever, so much as the means of avoiding circumlocution in talking of increasing and decreasing magnitudes. If, indeed, the words of all the sciences were collected, it would be found that there are many, which, taken quite literally, are absurd, but which are so fixed by custom, that it only remains to explain them into common sense, and to use them in the sense so obtained. With regard to the first-mentioned difficulty, viz. that beginners will be apt to use the terms of physics as implying more of the causes of phenomena than we are entitled to assume, there are two remedies; the first, to direct particular

attention and examination to this point, making the pupil frequently explain the sense in which he uses the words, and repeating over and over again the same instructions. The second method will require a fuller detail of explanation. Since the first step to be made is the collection of a large number of phenomena, and their distribution into classes, keeping together in the same class such as obviously resemble each other, one division may be perfectly well distinguished from the rest by simply mentioning the fact which the phenomenon presents. Thus the falling of a stone to the ground will be the representative of one class, the rising of smoke and vapours of another; which must not yet be confounded, since it is the object of the method to take nothing for granted, but to proceed directly from the evidence of the senses. Such a course is followed in natural history, where a collection of animals, having the same characters, is called by the general name of the most common amongst them. Hence, when the pupil refers a phenomenon to the same class as that of a stone falling to the ground, he makes the same advance in real knowledge as another who says that it is an effect of gravitation, and in a more rational manner. When each phenomenon is reduced to that class to which it most evidently belongs, it may be shown that there is a closer connexion between two or more of these classes than would at first be suspected; and also that some of the phenomena which have been observed cannot exist without others. The process of strict deduction here commences; and care must be taken, when any point, however trivial, is assumed, to state clearly in what the assumption lies. Thus, before deducing the fact, that the moon would, if its motion were suddenly

stopped, immediately begin to move towards the earth, it is assumed that the moon is composed of matter which is subject to the law of inertia, as it is commonly expressed. In this manner, and by strict attention to reasoning, which a child is perfectly capable of understanding, though not of originating, a system may be formed, which shall exhibit the primary connexions of natural phenomena, as far as we certainly know them, leaving the mind of the pupil perfectly unbiassed by any notions respecting the occult qualities with which we, in our hurry to say we know the cause of every phenomenon, have loaded the study of natural philosophy. A work which shall lay down these principles in an easy style is much to be desired; and it is equally to be regretted, that those who are capable of executing this most difficult task are either indifferent to its importance, or think it too great a condescension to write for children. The books which do exist are either full of unintelligible jargon, or confine themselves too much to accounts of mechanical contrivances. Even the matters which they pretend to explain are usually couched in language which a child cannot understand. The following are examples, selected from a popular catechism:—

"Q. What is meant by the constitution of matter?

"A. The relative number of atoms that are in a definite portion, or mass.

"Q. What do you mean by an atom?

"A. The name signifies that which cannot be further broken or divided, and therefore an atom is the smallest portion of matter that we can imagine to exist; smaller, of course, than the least object that can be seen by the naked eye, or even the finest microscope.

"Q. Is it necessary that an atom should be invisible?

"A. Yes; for if we could see the whole, we could also see the half, and it would be a mass, and not an atom.

"Q. Have atoms any other properties than indestructibility?

"A. Being the ultimate limit, beyond which we cannot go in the division of matter, they are necessarily all equal to one another."

Take the following as a specimen of clearness, admirably calculated for a child of ten years old to learn by heart:—

"Besides the general attraction of gravitation, which belongs to matter as such, without any reference to the particular form in which matter exists, there are modifications that arise from the constitution of different masses; and to these are owing the different kinds and qualities of matter that we meet with among the productions of nature, and some of the products of art."

We should not take notice of such nonsense as is here exhibited, were it not that we have reason to believe it is extensively circulated. Many who understand the subject, but who have not had occasion to examine into what is written for children, have no idea of the state of instruction in this respect. It is true that there are better works: for example, Mrs. Marcet's "Conversations on Natural Philosophy," which, though not free from some of the defects to which we have alluded, is infinitely superior to the productions from which our instances are taken. But the works from which children derive their first ideas are the little books of amusement, from one of which we quoted at the begin-

ning of the present article. Great talent has been of late years applied to this department of literature; but, as might be expected, few of the authors have possessed that commanding knowledge which is absolutely necessary for teaching the first principles of physics. No mistake is more common than the supposition that a very slight acquaintance with any subject is sufficient to teach the rudiments to beginners.

There is one error which prevails most extensively in education, and which we here mention with regard to our present subject. It is the practice of measuring the advantage which a child has gained from any particular method of instruction, by the number of words which he has learnt in the process. Thus, a great quantity of names in different languages, and a power of pointing out on what part of the globe lie the places which they designate, is called a knowledge of geography. Not a single inference with regard to any one people on the face of the earth can arise from this training, for no facts are furnished which can settle the question, whether the map from which the pupil learns is at all the better for being a real representation of the earth, or whether it would not do equally well if the teacher contrived an atlas for his own school, and filled it with names at pleasure. A similar practice prevails in communicating physical, and particularly astronomical knowledge. The habit of teaching by catechisms, or by causing the pupils to "say lessons," has degraded this truly noble branch of education into a mass of words, and words only. Nay, even those parts to which nothing could be objected, if they were intended for adults, lose their effect from containing words and phrases above the capacity of children. It may be asked, how such a state of

things exists, when the wish for improvement has become so general, and attempts have been made for this purpose, sufficient, it might be thought, to constitute a fair trial of its practicability? The answer appears to us to be, that there is not a sufficient number of well-informed teachers to effect any extensive change. Indeed, it is among the instructors that improvement must begin, and this is the greatest difficulty which is to be encountered. The pupils themselves are manageable, and, as has been proved in many instances, take delight in whatever really and sensibly increases their stock of knowledge. Nor is it in want of actual information that the deficiency lies, but in a prejudice against all systems of which learning out of a book is not the essential part. As far as instructors are concerned, the department of education to which this article is devoted has suffered much, in common with the mathematics, from the practice which prevails among the heads of schools, of transferring all duties of instruction to subordinate ushers or masters, except those which concern the Latin and Greek languages. We have here a remnant of the system which prevailed some years ago, of teaching nothing except classical literature. When it was at last thought desirable to introduce something more into the routine of education, the new study was merely pursued under the personal superintendence of the head of the school, and was therefore regarded by the pupils with indifference, if not with contempt. In some of our public schools, for example, the mathematics are yet on the same footing as the exercises of fencing or dancing, since, though tolerated and connived at, they are not the road to any distinction; and it is at the option of the pupil, or his friends, whether

they shall form any part of the pursuits of the former, or not. We are not aware that in any one is even this little degree of encouragement afforded to the study of natural philosophy; at any rate, the great majority of our endowed institutions, and, after their example, most private schools, do not afford the means of pursuing it, even to those students who might be desirous of gaining such knowledge in their leisure hours. This may be said in England without exciting much astonishment; but, according to the proverb, they manage these matters better in France. There, no considerable institution for the education of youth is unprovided with teachers on several subjects which are neglected among us, and particularly of natural philosophy. We should be glad to see this example followed; and, to produce the proper effect, it will be necessary that the heads of schools themselves should take an active part in both this and the mathematical department. We do not say that it is imperative upon those who are unqualified, to proceed immediately to the difficult task of acquiring, at a late period of life, knowledge so little akin to their former pursuits; but we do assert that it is their duty to show, by engaging the most competent assistants, and by showing that themselves are personally interested in the result, that the hitherto neglected branch of education is not merely tolerated, but really considered as a prominent and useful study. We do not, by any means, speak disrespectfully of the ancient languages, the necessity for which is proved by reasons of unanswerable force, when we assert that it is only the circumstances of the times, and unwillingness to advocate changes of too violent a nature, which prevent us from arguing that they should be considered only as secondary in im-

portance to the pursuit of the knowledge of nature, in the widest sense. But that it is almost hopeless to expect such a result, we should say that the acquisition of the elements of natural philosophy and natural history should divide the student's time equally with the *belles lettres*, and the Greek and Latin writers. This is unfortunately so far from being the case at present, that, though fully confident of the adoption of such a scheme, in process of time, we should now consider it as trifling with the reader to pursue the notion farther. One considerable point, however, will be gained, when natural philosophy, commonly so called, is recognized; and this finger will be the means of introducing the whole hand.

Had we written this only one year ago, we should have been at a loss where to find a book which would have won the intelligent by profound and rational views, the critic by beauties of style, and the follower of others' opinions by the authority of a distinguished name. No one, at all conversant with our present literature, can doubt that we refer to Sir John Herschel's "Preliminary Discourse on the Study of Natural Philosophy." Pre-eminent as this work will always appear, if only as an attempt to popularize the spirit of philosophic investigation, there is yet one omission, which, considering how important the subject is, and how well the author would have treated it, we must call a defect: we mean a chapter on the desirableness of introducing physics as a branch of education. But, for the instructor whose acquaintance is only with phenomena, and the catchwords by which they are explained; or the parent, who, with an ordinary education, is desirous of being instrumental in giving his children advantages which were denied to himself, we know of no work so well calcu-

lated to point out the path of real knowledge. We would not, by this assertion, lead our readers to conclude that they can, by the work above mentioned, obtain their object without thought or pains on their own part. Nothing but thought can give any value to the results of thought,—at least in any higher sense than that in which the maker of a telescope can be said to avail himself of the mind of Galileo or Newton. The man, however, who, to an ordinary knowledge of the results of scientific inquiries up to the present time, adds some power of reflection, and delights in the exercise of it, will here find the development of views which he might have searched for in vain in most other treatises, filled as they are with experiments and results, and not with the use which may arise from the study of the method of obtaining them. We will even go farther, and say, that this work will be better adapted even for children than most of those which are in their hands; though they will find much which they cannot understand, there is no small difference between obscurity which is worth explaining, and that which is not. And the mind of a young person would be forcibly impelled to know more of that which presents difficulties, from the very interesting nature of the illustrations with which the treatise abounds, and which are in most cases more intelligible than the examples given in works written expressly for their use. The whole is a splendid verification of what we have already asserted, that knowledge of the highest kind is never more urgently wanted, or more advantageously displayed, than in an attempt to illustrate the most elementary principles of any branch of knowledge.

The additions necessary to render this work a proper basis of school instruction are, a teacher who thoroughly

enters into its spirit, and a mass of facts in connexion with the different points on which it treats. The first, though a *rara avis*, is sometimes caught; and the second, though the collection of a sufficient number would be a work of much research, might be partially supplied by any one possessed of moderate information, to an extent which would considerably benefit his pupils. This being done, the "Discourse on the Study of Natural Philosophy" would form a class-book infinitely superior to those now in use, both in style and matter. If there be any who smile at our proposing a disquisition worthy the serious attention of the most learned as a study for the beginner, we would say, that an elementary work is of little value to the latter, unless it contain matter of interest for the former; and will refer them to the fact, that the first principles of every science are among the last to be clearly understood. Moreover, we do not assert that the work in question is complete in itself for the purposes of education; but we do not find in it any assertion, or any principle, which does not admit of such elucidation as would bring it within the comprehension of a child. Let us take, for example, the following paragraph, being the enunciation of the general method of classification,—page 102:—

"It is thus we perceive the high importance in physical science of just and accurate classification of particular facts, or individual objects, under general well-considered heads or points of agreement, (for which there are none better adapted than the simple phenomena themselves, into which they can be analysed in the first instance,) for by so doing each of such phenomena, or heads of classification, becomes not a particular, but a general fact; and when we have amassed a great store

of such *general facts*, they become the objects of another and a higher species of classification, and are themselves included in laws which, as they dispose of groups, not individuals, have a far superior degree of generality, till at length, by continuing the process, we arrive at *axioms* of the highest degree of generality of which science is capable. This process is what we mean by induction; and from what has been said, it appears that induction may be carried on in two different ways,—either by the simple juxtaposition and comparison of ascertained classes, and marking their agreements and disagreements, or by considering the individuals of a class, and casting about, as it were, to find in what particular they all agree, besides that which serves as their principle of classification."

If we had proposed that the pupil should learn this, as an answer to a question in a catechism, our absurdity, though considerable, would not be unparalleled, since, to compare great things with small, this would not be more unintelligible to a child, than the last of our quotations in p. 225: it is evident, however, that we have imagined no such thing. But if, on the other hand, the words were first properly explained, not out of a dictionary, but by actual example and illustration; if, again, to the instances given by the author others were added in considerable quantities, and such might be obtained, in any number, from among those objects with which the pupils are most familiar; if it were not regarded as material, whether so important a method were made the subject of one or of twenty lessons,—what is there in the development of this principle of which a clear conception could not be formed, or a good foundation of it laid, at almost any age? And, if such be the case, why

should sense be excluded because the language is difficult, when that difficulty may be removed; while nonsense, in language equally hard, is circulated and learned by rote without any attempt whatever to make it more easy? Undoubtedly the method of removing all objections would be to write a Discourse on the Study of Natural Philosophy which should be to the child what the one before us is to the man; but who is there to perform this task? It would require knowledge, and power of illustration, no ways inferior to that of the distinguished author of the "Discourse," combined with great experience in instruction. Nevertheless, that a work should exist, from which by any means so desirable an end may be gained as that which is proposed, is matter of congratulation for all who value knowledge as a source of civilization and happiness.

Although our remarks have been wholly confined to the study of natural philosophy, the same would apply, in some degree, to that of natural history. The present neglect of both will furnish a curious story for aftertimes. It will be on record, that among the first commercial people in the world, who depended for their political existence on trade and manufactures, there was not, generally speaking, in the education of their youth, one atom of information on the products of the earth, whether animal, vegetable, or mineral, nor any account of the principles, whether of mechanics or of chemistry, which, when applied to these products, constituted the distinction of their country. And this, when the studies so abandoned were allowed by all to be worthy of pursuit, simply as an exercise of the reason, and without any reference to their application. This story will one day excite some wonder, which will be removed

when it is added, that the tone of school education was given by certain endowed establishments, which, resting their existence upon the fame acquired when Latin and Greek were reputed the only useful branches of instruction, used their influence to exclude all others, long after the rational part of mankind had pronounced that more was necessary. Thus much we can assert without laying claim to the title of prophets; but it may be, and we would put it to those who direct the public schools whether it is not worth taking it into consideration, that their historian shall have to finish by saying, that while previously acquired reputation was supporting them in their quiescent obstruction of all improvement, a gradual change took place in the public mind on the subject of education, which they, occupied as they were in constructing elegant Greek and Latin verses, were among the last to perceive, that when, at a late period, they became willing to alter their system for the better, the time had past, and the recollections of former obstinacy rendered their demonstrations of improvement of no effect; that they sunk in estimation from that time, and finally became an object of interest to the antiquary only, for the remains of Gothic architecture which they left behind.

ON NATURAL HISTORY AS A BRANCH OF COMMON EDUCATION.

By CLEMENT DURGIN.

(From the American Discourses.)

The object of this lecture is to invite your attention to the subject of Natural History, and to urge its claims to be introduced as a branch of common education. In discharging my duty on this occasion, it will not be expected that I should treat the subject as if it were new to the members of this Institute. It gives me pleasure to believe that I am addressing those who duly appreciate the importance of this study, and who are disposed to give an indulgent consideration to the expediency of adding it to the branches already taught in common schools. Whatever shall dignify the profession of a teacher by the importance of his instruction, or promote his usefulness by enabling him to extend his labours to those subjects which are calculated to give him an honourable rank in society, I feel assured will meet with your respectful attention.

In stating some of the reasons why natural History should receive the particular attention of schools, and in sketching a few of the outlines of the study, and the advantages to be derived from it, I shall omit those minute details, upon which, more particularly, depend its charm and intrinsic value.

Free schools are among the most valuable of civil

institutions, and should be ever under the watchful eye and guardian care of every friend of virtue and civil liberty; and so far as this association can extend its influence or lend its aid, it ought to see that the republic of letters receive no harm. It is certainly a noble purpose of this Institute to discover and apply the best methods of teaching the various branches of education; and I speak with due deference when I say a higher motive does not exist; the attention of man cannot be awakened to a more important object than that of making himself and others happier, by understanding and teaching the principles of truth and duty. What then is the education which we should promote? In its most extensive acceptation, it comprehends whatever may have any good influence in developing the mind, by giving direction to thought or bias to motives of action. To lead infancy in the path of duty, to give direction to an immortal spirit, and teach it to aspire by well-doing to the rewards of virtue, is the first step of instruction. To youth, education imparts that knowledge whose ways are usefulness and honour, and by due restraint and subordination, makes individual to intwine with public good in a just observance of laws comprehending the path of duty. To manhood, "it leads him to reflect on the ties that unite him with friends, with kindred, and with the great family of mankind, and makes his bosom glow with social tenderness; it confirms the emotions of sympathy into habitual benevolence, imparts to him the elating delight of rejoicing with those who rejoice, and if his means are not always adequate to the suggestions of his charity, soothes him at least with the melancholy pleasure of weeping with those who weep?" To age it gives consolation, by

remembrance of the past and anticipation of the future. Wisdom is drawn from experience, to give constancy to virtue; and amidst all the vicissitudes of life, it enables him to repose unshaken confidence in that goodness, which, by the arrangement of the universe, constantly incites him to perpetual progress in excellence and felicity. Education is the growth and improvement of the mind. *Its great object is immediate or prospective happiness.* That then is the best education which secures to the individual and to the world the greatest amount of permanent happiness; and that the best system which most effectually accomplishes this grand design. How far this is accomplished by the present system of education is not easily determined; but that it fails in many important considerations cannot admit of a doubt.

It is feared, that, by a great majority, a wrong estimate is made of education. It is not generally considered as a *means* which must be employed to accomplish *some other purpose*, and consequently made subservient and secondary to the employments of life? Is it not considered as being contained in books, and a certain routine of studies, which, when gone through with, is believed to be accomplished, and consequently laid by, to be used as interest may suggest or circumstances demand? *Education comprehends all the improvements of the mind, from the cradle to the grave.* Every man is what education has made him, whether he has drunk deep at the Pierian spring, or sipped at the humblest fountain. The philosopher, whose comprehensive mind can scan the universe, and read and interpret the phenomena of nature; whose heaven-aspiring spirit can soar beyond the boundaries of time, indulge

in the anticipation of immortality, and discern in the past, the present, and the future, the all-pervading spirit of benevolence, is equally the child of education with him whose soul proud science never taught to feel its wants, and know how little may be known. If it is education, then, whose power metes out condition, and happiness or misery, what profession should rank so honourably as that which controls and directs it; and upon whom rest such high responsibilities as upon those who are intrusted with the charge of forming the human mind!

It is often a cause of deep regret that education answers so imperfectly its design; and I believe that all experienced teachers will concur with me, that much of our labour is apparently thrown away; that much of our exertion is baffled and counteracted by circumstances beyond our control: and it is very problematical whether all the means and pliances of this inventive generation shall add much to the permanent advancement of mental cultivation.

The experience of centuries is before us upon the important subject of education, and yet no age perhaps has exhibited such excitement, change, and experiment as this. These are good indications, as they exhibit the exertions of an immortal nature, striving to discover and apply a greater good than has yet been spread over the face of society; but it is no less important to know when to rest satisfied with experiment, and to learn how best may be applied the materials already at our command. It may be well for those whose duty it is to investigate the cause of our grievance to examine with a scrutinising suspicion into many of the boasted improvements of the day; to see if there is not more show than

substance. Should it be discovered that many of the facilities for teaching are but *troublesome conveniences*, and that many books now in use are so far simplified as to be destitute of nutrition, a remedy can easily be suggested. It may be, that hereafter it will be ascertained that nature never intended a child should learn to walk on crutches, or think by a machine. This age stands pre-eminent for the application of power to the movement of locomotive engines; and in its all comprehensive sphere this power kindly lends its aid to propel the mental energies, saving to the community an immense amount of painful labour and hard thinking; and so vivid is the prospect in the vision of some romantic pioneers, that their advancement before their less zealous brethren already enables them to descry a railroad cut to the highest pinnacle of the hill of science, along whose flower-strown path the velvet cushion of a steam-carriage shall bear the sons and daughters of literary distinction, with an ease and rapidity truly astonishing. It is ardently expected that it will soon be as easy to acquire eminence in this country as it is to inherit it in any part of Europe.

It is not for me to predict what will be the result of such sanguine expectations. I acknowledge no man my superior in ardent wishes for improvement in systems of education; but if I may be permitted to give an opinion, I would say, that whatever shall attempt to relieve the mind from labour necessary to its growth, or by explanation and illustration to supersede the necessity of vigorous thought and diligent application, must be injurious to the cause of sound learning, and can foretokea nothing more inviting than a barren intellect and an empty brain.

A part of the evils under which education at present labours is undoubtedly attributable to the system itself. It is often a subject of remark, that so little of school education is carried into the actual business of life; that what was considered dry and uninteresting at school, is soon forgotten after the pupil is disengaged from the thraldom of early years, and takes his place in the community, where his own powers of mind are, for the first time, brought into exercise. Nor is this a source of wonder. I ask any instructor to call to mind the present routine of common education, and tell me how much of it is calculated to develop the mind. We will not enter upon the disputed point whether all ideas, or the elements of knowledge, are implanted in the mind through the medium of the senses acting upon external objects, or whether they are innate in the mind, and evolved or brought out by the exercises of the senses. One thing appears to be certain: we were born with certain instincts and feelings, which are the result of our organization, and we are endowed with the powers of perception and memory; and from these must proceed all our knowledge. But we would inquire how much of present instruction is made to retain its influence in after life. Are we told that we have only time to learn what is absolutely useful to enable us to discharge our several duties, and that all knowledge which cannot be brought to aid us in our daily labours to obtain a livelihood is useless, its acquisition is time misspent? We cannot envy such a one the pleasure of so humble an estimate of the human mind or the value of education. It is true we have only time to learn and practise what is useful. What then is useful knowledge? What should be taught? That is useful knowledge

which makes us wiser and better—that should be taught and practised which will secure the greatest amount of permanent happiness. By the condition of our being, it becomes necessary to learn first what may contribute to our immediate wants; but our wants are always immediate. To say we should teach what ought to be practised in after-life conveys a complete idea of the term education.

The usual branches of a common education are taught for their indispensable utility. We make complaint of the amount of knowledge acquired, and the want of thoroughness; and when it is remembered that a part or all of the first twelve or fourteen years of life is spent at school, it must be confessed that less is accomplished than might reasonably be expected. In this time a small capital of ideas ought to be accumulated, to enable the individual to live without becoming entirely dependent on others; at least, he ought to be enabled to understand what shall be of daily occurrence to him. It is the unfortunate lot of a great majority of mankind to be obliged to labour for the means of existence. They consequently have little time for study; they acquire ideas slowly from books, and trust to the passing events of the day for the topics of thought and conversation. A vast amount of useless thought is thus expended on low and trivial subjects; and social intercourse, which might be made subservient to the noblest purposes of our being, improvement and happiness, is too often degraded by folly or poisoned by intemperance. But what shall prevent the mind's abasement? At that interesting age when the intellect begins to assume its manly features, and needs, more than ever, something to nourish and direct it, the feeble stock of early

acquisition is insufficient to its support, and the character then becomes the child of accident and the sport of chance. There is evidently too little in common education for which in after-life memory will pay her tribute to early instruction.

To obviate this misfortune, it is proposed to interpret to youth the rudiments of that great book, the works of nature; to enable them to read and understand the ceaseless wonders and boundless perfections there displayed. It is not desirable that the study of natural history should be introduced to the exclusion of any branch of common education now taught; all that is desirable is, that it be permitted to take its appropriate rank, and receive its merited attention. The natural sciences are neglected, to the great injury of mankind in what most intimately concerns them, their happiness. Happiness, it should be remembered, is not only the great object of education, but of life itself. Whatever augments this is the soul's great good; not that effervescence of feeling which agitates a giddy mind, and, like the mist of the morning, is soon to pass away, and leave behind its damp and chillness; but an inwoven, deeply-rooted enjoyment, rising from the fountains where reason and philosophy, nature and art, combine and mingle all their sweets. In that hard doom which bound man to daily toil for his subsistence on the hostile earth, we behold the tokens of mercy, that by the constitution of his nature, he is enabled to convert all the objects around him into sources of pleasure. It is this capacity to see and enjoy beauties in the works of creation that we would cultivate, making all things answer the double purpose of supplying our wants and administering to our enjoyment.

Contemplate for a moment the condition of a human being, and the means ordained for his existence. His feeble frame is invigorated by the life-giving air; his eyes brighten to look upon and enjoy a pleasant world, and his ears learn to distinguish the varieties of sound. Nature has placed him in a world of organized things, all of which lend their influence to develop his immortal spirit. His senses were given him to be the ministers of thought and feeling between the world within and the world without. It is the office of education to regulate this influence, to determine whether this child shall be the gloomy savage or the enlightened philosopher.

It has never entered the imagination of man to conceive of the amount of rational enjoyment there is in the storehouse of nature, unless he has enlisted his feelings in her cause. Books may be read and be forgotten. The avocations of after-life may leave us no time for their perusal, but the volume of nature is always open before us; in every walk, in every scene of duty, its voice may be heard to instruct and delight us. Escape her influence you cannot. "It raineth on the just and the unjust." The vegetable kingdom in its verdant beauties, the insect tribes with all their varying wonders, the birds, that luxury of nature, and all the animals that people earth and sea, are, to the natural philosopher, objects of interest. He can see design and perfection in the insect that sometimes annoys him; in the bird that sings, or preys upon its brother; and in the animals that administer to his support, or plunder his subsistence; even in the inanimate earth he finds the materials of happiness; and, when he has hewn his granite tomb, it adds one consolation to his common allotment, to reflect, that, while his spirit shall dwell

with the First Cause, his dust reposes in the first monument of earth's existence.

Natural history, in its full extent, embraces the name and description of every object of the material world, together with their changes and phenomena. Although every part of nature is interesting, it cannot be expected that a familiar acquaintance with all can be the favoured lot of many. Life, exclusively devoted to this study, would fail to comprehend it; and after the genius of ages has lent its light to discover and record the wonders of creation, much remains for future industry to accomplish. It is not, however, in the hope of adding anything new to the long catalogue of natural objects that I now urge its claims to the attention of the teacher; it is indeed hoped that discovery has not yet furled her wings for ever, but that sons and daughters are to be born to science in this favoured land; I would not, however, urge further conquest; I only ask for the cultivation of what we already possess. The extent of natural history might be considered as an insurmountable difficulty to its introduction as a branch of common education. If you look at it in books it is indeed forbidding. Its long catalogue of names is so appalling that few have the courage to attack, and still fewer the good fortune to conquer. Yet these are no objections to it as a study, much less to its value or expediency.

The object of common instruction is to impart important and general ideas; to explain the principles upon which knowledge is founded, as landmarks to guide the pupil in the onward path of life. However much it is to be regretted that the great mass of mankind receive but a scanty education, considering the circumstances

under which they live, it is no reason why the fountains of knowledge should be locked up, lest

"Shallow draughts intoxicate the brain."

Knowledge, however little, is valuable, provided it be useful, and made subservient to life, and life's great aim. In the time usually devoted to common education, nothing more is attempted than the simple rudiments of the branches taught; so in natural history, we can expect only to introduce the pupil into that sublime temple, paved with gems, decorated and perfumed with flowers, and made radiant with life and animation.

On this extensive subject I am permitted to speak of but few of its prominent features. In teaching, I would begin where nature intended, at home, and explain the objects immediately around us. In this department, books for the pupil, and scientific arrangement, with the teacher are minor considerations. The object is to teach a knowledge of *things* rather than of *words;* to study nature in her own livery, rather than in the drapery of art.

In Mineralogy, the names and uses of the different substances are easily remembered by the pupil, and as they are always before him, an acquaintance with them opens an extensive field of rational enjoyment, which will fill with pleasure many a vacant hour in after-life. One of the most obvious advantages arising from the study of the natural sciences is the habit of discrimination which it teaches. To learn to distinguish, by a careful comparison, the less obvious differences in specimens apparently the same; to comprehend at a glance the distinguishing features of others; to observe the various and beautifully formed crystals, and to remember the different purposes to which the minerals are appro-

priated in the arts and economy of life, all combine to give that power of discrimination which constitutes, to a very considerable extent, mental superiority. Another advantage of great importance, derived from this study, is, that it can be understood by the pupil. I wish I could with equal truth bestow this high encomium upon all the subjects now employed to develop the youthful mind. Nature's teachings are always simple, though sometimes sublime; and the child, who has been led to admire the sparkling gems found upon the surface of the earth, may, at a riper age, be taught to comprehend the more sublime features of nature which modern Geology has revealed. In the composition and structure of the earth there is a grandeur displayed that almost mocks the creative imagination. The extensive vale, with its rich, luxuriant mould; the rocky hill, shorn of its verdant glories; and the towering mountains,

> "Whose vast walls
> Have pinnacled in clouds their snowy scalps,
> And throned eternity in icy halls
> Of cold sublimity,"—

are the displays of that power whose agents have broken down the solid barriers of earth, and scattered the surface with their fragments—have scooped out the beds of lakes and rivers, and in sand and stone marked the boundaries of seas and oceans. In the effects of earthquakes and volcanoes we catch a glimpse of the hidden energies of nature; and in each recording stratum of earth's progressive state, we read the memorials of other times and other beings, when the deep foundations were broken up, and in oblivion were buried the countless races of former ages, whose fossil relics are all that now remain to tell of their existence or the catastrophe which overwhelmed them.

The science of Chemistry cannot be too strongly recommended as a branch of common education, as it is more immediately connected with our welfare and happiness than most other subjects. It acquaints us with the nature of the material world, the influences of different substances upon each other and upon ourselves, and unfolds the great laws of nature, by which the ceaseless changes of organization and decomposition are effected.

The knowledge derived from the natural sciences is not confined to the objects of nature, but it sheds its light on every other department of learning. Chemistry teaches, that changes, by combustion or decomposition, are not a loss of matter, but a different state of being. It coincides with revelation in proclaiming the immortality of the soul, in the attested fact, that nothing can be annihilated; while to Geology is reserved the honour of confirming, from nature, the doctrine of miracles. Geology declares that this earth was long inhabited by countless races of animals before it became the abode of man. Comparative Anatomy establishes the fact that man could not have ascended, by gradual improvement, from any other race of animals. His introduction into this world must then have required an absolute creation; and this was a miracle, an event which the established laws of nature could not have accomplished. If the doctrine be proved in one instance, it will obtain in all.

Living as we do amidst the wonders of creation, where all seem to subsist by a miraculous power, nothing delights us more than the various aspects which the ceaseless changes of the year produce. In spring, after having escaped the long confinement of winter,

with what delight do we hail each springing blade or opening flower; our hearts expand with the vernal blossom, and our feelings awake to livelier emotions, as we behold the daily progress of vegetation dressing the landscape in smiles and loveliness. Among all created beings, it is alone the high prerogative of man to comprehend and enjoy the works of nature. The influence arising from rural scenes is kindly calculated to elevate and refine our feelings, and to impart that sweet and amiable disposition which is at once the most valuable and endearing accomplishment of our nature. As "an undevout astronomer is mad," so an unamiable lover of nature is an unnatural monster.

> "All natural objects have
> An echo in the heart. This flesh doth thrill,
> And has connexion by some unseen chain
> With its original source and kindred substance.
> The mighty forest, the proud tides of ocean,
> Sky-clearing hills, and, in the vast of air,
> The starry constellations, and the sun,
> Parent of life exhaustless—these maintain
> With the mysterious and breathing mould
> A coexistence and community."

Perhaps no part of nature offers more pleasing attractions than the vegetable kingdom. The study of botany is eminently calculated to awaken genius, to correct the taste, and to give a glow and richness to the imagination. It is certainly to be lamented that this useful and highly ornamental branch of knowledge is so much neglected. Whether this arises from the apparent difficulties in the science, or the imperfect mode of teaching it, cannot be easily determined; certain it is, that it is worthy the attention of all rational beings, who hope to spend a life of happiness amidst the budding glories of spring, the ripening summer, and the bounties of the autumnal year.

In teaching this subject to children little dependence

should be placed on books; the hard names there employed will tend to wean rather than to engage the attention. Familiar lectures upon the objects themselves combine most of the advantages desirable, and if a judicious management be preserved, the pupil will soon find himself possessed of those leading facts which will enable him to understand the changes and interpret the phenomena of the vegetable kingdom. A strict attention to method and scientific arrangement cannot be too urgently recommended to those who wish to become proficient in the study; but care should be had that too much be not undertaken in the case now under consideration. It must be remembered that, of the time devoted to a common education, very little can be given to the study of nature; that little should be given to nature herself, and to nature at home. The study of rare and curious plants, exotics, is indeed pleasant to those who have leisure; but our object now is to make the pupil acquainted with that part of the vegetable kingdom immediately around him, amidst which he is probably destined to spend his life: not to teach him the beauties of the tropical regions, and leave him ignorant of those of his home. Instances are not uncommon, where individuals can repeat all the names of green-house plants, but know not the name or nature of those that spring up by their daily path, and which, if far brought, would be considered equally beautiful with their more favoured sisters. This disposition to exile the mind from home is among the leading propensities of our nature. We send our thoughts and sympathies abroad, and expend them on useless subjects, when they should be employed at home; nor is this peculiar to one subject; instances are too frequent

where men can read Latin and Greek fluently and correctly, who can neither spell, write, nor read their native tongue accurately.

Among the most interesting parts of plants are flowers. Their endless varieties of form, colour, and odours never fail to excite our admiration of that wonderful display of infinite perfection exhibited in their matchless hues and inimitable structure. He who hath no love of flowers in his soul,

"Is fit for treasons, stratagems, and spoils."

The vacant moments of life are often beguiled of their pains by these emblems of purity and innocence. They please us by their beauty, they please us by their fragrance—even their evanescence pleases us, and we hail their return with a joy which would be unknown were they the abiding objects of creation. The pleasure derived from flowers is greatly enhanced by a knowledge of their parts, and the important functions they perform in the economy of nature; the instructed eye will perceive beauties which must remain hidden to the untaught vision.

A few general ideas will comprehend the folious system of plants, in which may be found much useful information—such as the general structure of the leaves, and the purposes which they answer in the growth of the vegetable—that by them the sap is elaborated, in the same manner as the blood in the lungs of animals, by the absorption and decomposition of air—the means employed by nature to renew them the following year, by buds in the temperate and cold regions, but by another process in the torrid zone. Vegetable physiology, including the structure and growth of plants, is itself an exceedingly interesting subject, easily taught and comprehended.

One of the noblest occupations which engages the active powers of man is agriculture. As it is the support of all others, so should it rank first in point of dignity. Its claims to superiority over manufactures and commerce demand that the man should not sink below his profession. As a large proportion of those who receive a common education will become tillers of the earth, we know of no way in which they could be more efficiently benefited, than by teaching them a knowledge of the soils and their productions, amidst which they are to employ their labour and spend their days. Of scientific agriculture our country has much to learn before the husbandman can reap the full reward of his exertions. Horticulture is beginning to strew its flowers and fruits along the path of healthful industry, giving fragrance and richness to the beauties of nature. It is ardently hoped that an improvement in education will do something to free agriculture from its abasement, caused by the habits, prejudices, and want of information in too many of its worthy followers.

It is an old saying that nothing was made in vain; yet what a vast number of living creatures there are, as well as of plants, of whose importance or connexion in the economy of nature we are ignorant. How much yet remains to be accomplished before man can become the interpreter of nature, to which his rank entitles him, and which his improvement demands.

The condition of our being makes it incumbent upon us to understand the nature of that system of things of which we form a part, and from which we derive our subsistence. To know ourselves would comprehend a knowledge of almost everything else; but no knowledge is more interesting or more useful than that which

is derived from the study of nature. Our existence is as intimately connected with the elements around us, as is that of a plant; and it is pleasing to know how we live and move. This inquiry would show us the importance of the study now under consideration. How intimately connected is the continuance of life with air and heat; and these alone, in their various phenomena, open a wide field for observation. From the earth we draw most of the solid materials which enable us to hold dominion over nature. A knowledge of these, and their application, inwoven as they are into every department of civilized society, is no less useful than interesting. We derive our food from the earth; but are unable to subsist upon its crude materials. Established then between us and the fountain of our existence is the great laboratory of animal life, the vegetable kingdom, which opens to us a field of boundless extent and variety. From the vegetable kingdom we derive much of our food and clothing. It furnishes the softer materials for building our houses and machines, and enables us to construct the noble ship, and navigate it to all parts of the earth, thereby extending the boundaries of commerce and civilization, giving to the less the luxuries of the more favoured climes, and making the nations of the earth one great community. Our interest, our welfare, and our happiness, all combine to invite and urge us to study this delightful part of creation.

A stronger claim, arising from sympathy, is urged upon our attention by the countless races of animals which people the air, the earth, and the ocean. In viewing the forms and habits of animals, we are led to bestow on them a certain capacity or intellect, some traits of which are exhibited by them in a wonderful

degree. We imagine them susceptible of pleasure and pain, and endowed with the nobler qualities of our nature, such as love, courage, and gratitude. These, together with the multiplied relations which animals hold in the grand economy of nature among themselves, and to us, always come home with a pleasing interest to all minds in all ages. No study is better calculated to unite the twofold purpose of amusement and instruction than this. What an immense number of human beings are supported on the flesh of animals. Millions are daily sacrificed for food and clothing. Almost every animal is taken for food in some parts of the earth; while feathers, fur, wool, silk, and skins, are converted into articles of dress. Oil, spermaceti, wax, tallow, afford us light; and bone, ivory, pearl, shell, horn, whalebone, hair, bristles, are all made to administer to our wealth and happiness. This fact that animals supply our wants to such an extent ought to excite our interest in their history. The favourite mistress of the Indian hunter is robed in less spoils of animals than the votary of taste and fashion in refined society. The ox and the kid have yielded up their lives to furnish their skins for a lady's shoes. The whale sent its oil from the arctic regions to dress the leather, and the swine lent its lard and bristles, and the bee its wax, to assist in the manufactory. For her dress, silkworms in multitudes have toiled and died. The sheep silently relinquished her fleece to form the outer robe, on whose borders the marten, the otter, the ermine, or the sable, holds a conspicuous place. From the ears are suspended, curiously wrought, the mother-of-pearl brought from the depths of the tropical seas; the turtle has been robbed of its shell, and the cow of her horns, to be

transferred as ornaments to the lady's head; while the rich plume of feathers and the ivory fan show us that the ostrich and the elephant have not escaped this general destruction. The representatives of twenty different animals, from the four quarters of the globe, frequently unite in a lady's wardrobe. In some instances, whole tribes of men subsist almost entirely on a few species of animals. The Esquimaux and the Laplanders turn the reindeer to a better account than Boniface did his ale. They not only eat and drink and sleep upon this useful animal, but convert it into many other purposes in their simple economy.

Some of the domestic quadrupeds are the faithful companions of man in every part of the globe, rewarding his care and protection by their clothing, their milk, and their flesh. It is interesting to learn the changes which all domestic creatures undergo by cultivation; and, in an agricultural point of view, this knowledge is highly useful. Some scientific knowledge of animals, their form, structure, disposition, and modes of living, should be regarded as a valuable portion of every education. The number of objects in Natural History seem to point it out as the appropriate field for the development of the young intellect. It suits well the restless disposition of childhood, when no one object pleases for a long time; and, unlike most other subjects, this retains its interest in after life: he who loves a flower in youth will love it when he is old. The taste for nature must be planted early in life, to enable its possessor to enjoy a ripened harvest.

Every thing which the Deity has created is worthy of our attention.

> "Nature has nothing made so base, but can
> Read some instruction to the wisest man."

The subject of Entomology, or the history of insects, is less understood in this country than that of any other department of natural science. This arises, perhaps, either from the circumstance that the knowledge of insects is obtained at a great expense of patient industry and acute discrimination, or from a want of taste, arising from a want of information in this most interesting department of animated nature. It is true that few studies demand a more untiring devotion than that of entomology; and it is also true that there is little in it which can be turned to a cash account; reasons sufficiently powerful to induce many individuals to keep at a respectful distance, and perhaps, as is usual in such cases, to put on their contempt to hide their ignorance.

The wonders of creative wisdom are no where more strikingly displayed than in the insect tribes. Every part of matter amidst which we live and move, swarms with myriads of beings, countless and various as the leaves of the forest, assuming every colour that beauty could suggest, every form that the imagination can conceive, and, in perfection of powers and adaptation of parts to the circumstances of their existence, equalled by no other part of the animal kingdom. Numerous and various as they are, minute as are their bodies, and transitory as is their existence, they are nevertheless bound by certain laws of their natures, which are readily perceived and explained. With no part of this living world are we more intimately connected than with the subjects of entomology. Some, as the bee and silkworm, administer to our wants and enjoyments; others, whose design is less obvious to us, answer undoubtedly equally important purposes in the great economy of nature. The happy myriads that gambol in a summer's

sun; the worm that gnaws at the root of our vegetable, that strips our fruit trees of their leafy glories, or that spins our costly garments; the blights of spring, and the locusts of autumn, spreading dismay and famine; and the coral insect, building its habitation mountain high from the fathomless depths of the ocean, to become the destruction of commerce, or the foundations of islands rich in oriental productions, are all objects of interest to a contemplative mind.

Some of the general facts connected with this subject, and which will always be found useful and interesting, are such as relate to the origin and formation of insects; that most of them are oviparous, but some are both oviparous and viviparous—that they pass through several stages of being, assuming different forms and subsisting upon different kinds of food — that their structure and organization is peculiar to themselves— their mode of respiration differing from other creatures, the air being admitted to a complicated circulation through the system by means of spiracles and tubes on various parts of the body, but never on the head—no insect breathing through the mouth,—and consequently they produce all their various sounds by their wings, legs, and other parts of the body. The changes which most insects undergo in their transformation from the vile worm to the gay wanderer from flower to flower are curious in the extreme. At first, we behold an atom, which on being exposed to the genial warmth bursts its shell and exhibits the feeble insect, capable of procuring its own food, amidst which, by the instinct of its mother, it has been placed. In its larva state, it repeatedly casts its skin, until, arrived at its full growth, it ceases to eat, selects some place secure from danger,

spins itself a shroud, and, in a temporary death, a vivid emblem of mortality, awaits its final consummation of being, when it emerges from its tomb, and, changed in every organ, feature, and capacity, rises into a higher state of existence, to fulfil the important purposes of its creation.

No subject is more fruitful of moral instruction than this:—

> "Who can observe the bee and ant,
> And not provide for future want?"

The admonitions to duty and perseverance, the example for self-devotion to each other's welfare, rise at every stage of investigation into the habits of economy of these little creatures. Every department of creation is full of interest; in all we see enough to admire, but we do no injustice by the comparison, in saying that no part of animated nature presents so much to feast our wonder and astonishment as this. The habits and labours of the bee have been admired in all ages; their industry and economy in the construction of their inimitable habitations—the mathematical exactness in which the cells are proportioned—the division of labour at home and abroad—the collecting of honey and pollen—the care and attention to the young—the massacre of the drones, and the important functions of the queen, with the mysterious influence which her presence exerts over her loyal subjects, are among the displays of that faculty which may be called animal reason, and which sometimes mocks at the boasted power of the human intellect, by a forecast and perception unattainable by the wisdom and philosophy of man. A taste for the cultivation of the bee would add much to the numerous charms of our delightful country. Their history is a volume of

useful instruction, and only needs to be known to be duly appreciated. The ant, though a useless insect, compared with the bee, is in its history no less interesting and wonderful. The policy and labours of ants, their extensive habitations in the tropical regions, and the remarkable fact, that they keep vast numbers of aphides in a kind of domestic subjection, to furnish them with honey, guarded by them in summer, and protected in their cells during winter, give the air of romance to their history, and raise our admiration of that Power whose works are as perfect in an atom as in a globe. Design is no where more distinctly manifest than in the foot of a fly, which enables the insect by suction to walk in perpendicular and pendulous postures; or in the glow-worm, whose shining light discovers her presence to her winged mate, herself being destitute of the means of flight. A limited knowledge of insects may often give pleasure to a summer ramble, and enliven many a lonely hour of pain and weariness. Although the objects of entomology are insignificant when compared with the nobler races of animals, which more immediately affect our interest, yet of every one who delights to trace the designs of intelligence in creation, and understand and enjoy the world around him, this study will command the few moments in the intervals of life necessary to obtain its leading features.

One of the most obvious beauties of natural history is the great variety in form and features everywhere presented to us,—an endless variety, arising from the combination of a few simple principles, readily perceived and comprehended. Take for example the oxygen of the atmosphere as a supporter of life, without which no plant or animal can exist. In its applica-

tion, how various are the means employed by nature, over all whose works, from the least to the greatest, an equal care is extended. In all warm-blooded animals the air is received into the lungs, where it parts with its vital principle to renovate the blood and give health and vigour to the system. In reptiles a different modification of the lungs and the circulating system produces a corresponding difference in the temperature of the body and the habits of the animal, enabling some of them to exist in a torpid state several months without eating or breathing. In fishes we discover another arrangement, that of gills, so constructed as to absorb the oxygen from the water in its passage through them; and in many of the lower orders of aquatic animals, the surfaces of their bodies, like the leaves of plants, appear to perform this important function; while in insects, as has been observed, the air is circulated by means of numerous tubes, interlacing the whole system, and communicating with openings in various parts of the body.

In the vegetable kingdom how simple are the elements which compose the endless variety there displayed. Oxygen, carbon, and hydrogen are the simple substances, which, modified by the law and directed by the influence of vegetable life, perform the ceaseless changes in form, colour, and consistence in the growth, decomposition, and renovation of this important part of creation. These elements accumulate and rise into magnificence and beauty, to fill nature's storehouse with riches and plenty; then again are scattered, to re-combine in different proportions in other substances, and thus preserve the harmony and order of nature.

These general ideas are easily taught, and not soon forgotten.

What has been said of the advantage derived from the study of the names, habits, and structures of the inferior objects of creation will also be applicable to the higher races of animals, with the addition, that our feelings become enlivened as our interest is influenced. The great variety of animals inhabiting the water will be found to possess a peculiar interest, arising from their adaptation to the element in which they reside. The ocean is the great abode of animal existence, and the provision made for the support of the various tribes, and the means employed to keep in check the more prolific species, are among the most obvious displays of Infinite Wisdom. For most of the animals, great and small, inhabiting the land, a common food is provided in the vegetable kingdom; comparatively few species prey upon others. But in the ocean it is different; from the small animalcula, to which a drop of water is a sea, to the mighty whale,

> "Whom God of all his works
> Created hugest that swim the ocean stream,"

the condition of the being seems to be to feed upon and in turn become food to others. The monsters of the deep are interesting to us from many considerations; their gigantic forms, the enterprise and danger of their capture, and the various uses to which they are appropriated in the arts and domestic life, render their history pleasing. The same is true of the smaller inhabitants of that element. The herring visits us annually from its home within the arctic circle; the shad and salmon

perform their yearly pilgrimage to the highlands of the country, in obedience to the dictates of their nature; and in every individual species something may be observed which will amuse and instruct.

Amid the profusion of living creatures that surround us, none bring to us livelier sensations than birds; their peculiar form, beautiful plumage, and graceful motion through the air, always delight us. They seem to be the ornamental part of animated nature, as flowers are in the vegetable kingdom. Winter spreads a gloom over the face of the landscape, which in summer was adorned in glittering splendour; and we feel the cold desolation as we survey the silent relics of the departed year; but when spring returns our feelings are enlivened to hear the winged heralds of seed-time and flowers returned from the sunny vales of the south, bringing the same sweet notes that so often charmed our infancy and, if the heart has kept its purity, still touches the sympathetic chord in the breast of manhood. In spring they give an additional enchantment to the smiles of infant nature; throughout the summer they delight and amuse us with sportive animation in their exuberance of joy and hilarity.

Ornithology has long been the favourite study of the naturalist, and perhaps no contemplation of nature is better calculated to impart kind and amiable qualities to the mind. From the golden-dotted humming-bird, smaller than many insects, to the rapacious condor of the Andes, whose wings extend through sixteen feet—from the humble denizen of the hedge-row or the cottage-roof, to the birds of paradise, beautiful,

> "As if dropped from some higher sphere,
> To tell us of the gorgeous splendour there;"

and each intermediate grade in colour, form, and modes of living, all open a storehouse of rational enjoyment which we can obtain nowhere else. The names and characters of birds are easily learned, but these alone are not the most valuable part of this subject. The grand object of the study of Natural History is to *enjoy*, in elevated and refined feeling, the works of creation; to look upon all things with that calm complacency which arises from an habitual contemplation of rural objects.

In the structure of birds, differing from all other creatures—in the circulation of air, not only in the lungs, but through the bones and feathers, for the purpose of making them lighter—in their food and habits of living—in the architecture of their dwelling, their eggs, and the parental care and attention for the young, we find abundant matter to amuse a young or instruct a riper age.

As we ascend to the highest class of animals, the mammalia, we find new wonders open to us in their more complicated forms and diversity of powers. In this extensive class are included most of the large and small quadrupeds inhabiting the land, together with the cetaceæ of the ocean, comprising the various kinds of whales, walrusses, seals, &c. Consequently the field of observation is as extensive and broad as the earth; but those varieties which immediately surround us are comparatively few, and their history easily acquired.

Animal physiology is a fruitful source of useful instruction, and should by no means escape the attention of the teacher or pupil. Digestion, the circulation of the blood, respiration, the wonderful mechanism of the eye and the ear, are among the most useful items of

general information, and may always be brought with an enlivening interest into the monotonous routine of daily teaching.

Natural History would be entitled to our veneration, if it taught us only the general outlines of our own system. It is certainly to be lamented that ignorance and prejudice should have so long triumphed over reason, in forbidding that most useful of all information, the anatomy and physiology of our own system. How few there are who understand their own organization, or know in what manner the human system is influenced by climate, food, and apparel, which would enable them to take the precautionary measures to guard against accident or disease. It can be easily and successfully taught in any school, even without drawings or preparations; and childhood might soon be divested of its timidity, if judicious teachers were permitted, by public opinion, to treat this subject in a manner worthy of human beings. Some attention to the leading features of anatomy and physiology cannot be too urgently recommended to all who have assigned to them the important duty of directing the education of youth. Important are the advantages arising from even a limited knowledge of our bodies, so fearfully and wonderfully made. Time will not now permit me to enumerate these advantages, though the injudicious treatment of children, the intemperate habits in eating and drinking, and the injurious fashions of dress, which would be most signally benefited by this knowledge, call aloud on me to advocate the cause of philosophy, reason, and humanity.

In attempting to introduce the study of Natural History into schools, the first duty belongs to teachers

themselves. To what extent teachers are generally qualified to instruct in the various branches of this science is unknown to me; but it would not be surprising if it were found that many had overlooked this, in qualifying themselves for the duties of their stations. Such owe it to themselves and their pupils to combine industry with perseverance, until the desired object be obtained. One half a day in each week could not be better spent by a school than in collecting and examining specimens of natural objects. This would tend very much to enliven the duties of teacher and pupil, and be productive of much good, besides the knowledge gained. The teacher should improve all occasions, when any rare and curious object is thrown in his way: the instruction of a few moments, spent in calling the attention of a school to such objects, at any time, will be remembered when hard-studied lessons shall be forgotten. Natural History owes more to Linnæus than to any other individual; and he attributed his early bias and love for the study of nature to the remarks his father made upon a flower, in a ramble, when he was scarce four years old. This botanical lecture, he observed, formed an epoch in his scientific life.

We would not exalt the study of Natural History at the expense of any other; we only wish it to occupy its appropriate place in education. What is life, but a school, where men and animals and things are the subjects of daily study!*

* "Natural History is very little estimated as it ought to be. Three considerations recommend it as a most important branch of study for boys and youths, in the school and academy.

1. I regard Natural History, when judiciously and faithfully taught, as one of the best preservatives against irreligion. Young people enter into life, in ninety-nine cases out of one hundred,

In our country, where freedom of speech is uncontrolled, there is a want of something to engage the attention, and draw it off from those subjects of feverish excitement, which spread with such scorching influence in these days of modern reform. The mind will be active, and if it have not some useful subject upon which to spend its energies, it will feed on trifles. To

as ignorant of Natural History as a boy of his father's library, which he has only seen through the glass doors of the bookcase. The natural world, instead of a *living*, is actually a *dead* world to the mass of educated persons. They know little or nothing of its facts, and absolutely nothing of its science. It is not surprising, therefore, that most educated persons look upon the works of God, in the visible world, with as little emotion or thought as upon the works of man. They have no settled opinion, no habitual feeling, that a tree is a piece of more admirable mechanism and workmanship than the group of Laocoon, the Parthenon, the transfiguration of Raphael, or the church of St. Peter's. But, if young people were thoroughly acquainted with the important and interesting facts of Natural History, and faithfully instructed in its curiosities and wonders, with an express view to illustrate the power, wisdom, and benevolence of God, can we doubt that they would grow up with such deep and fixed opinions on those important points, as to have no avenue for doubts, either in early manhood, or in later years? Is it possible that youth can appreciate rightly these attributes of their Maker, Ruler, and Judge, when they are so lamentably ignorant of his works?

2. The second advantage to which I refer, is, that this knowledge, more than any other, except religion, (and what is Natural History but the handmaid of religion?) becomes a perpetual companion, by land or by sea, in the town or in the country.

3. A third consideration is, that the curious and interesting facts of Natural History are an inexhaustible and varied fund for social intercourse; so that many an hour now passed in frivolous or useless, if not pernicious conversation, would be both agreeably and instructively spent.

It appears to me that an acquaintance with the Natural History of man is more important to educated persons, and more worthy of high rank in the scheme of liberal education, than all the mathematics that are taught in colleges. I conceive anatomy to be a far more valuable, instructive, and noble study for a young man, than spherics, conics, &c., and if the choice lay between mathematics and the Natural History of the human species, I should prefer the latter, as a branch of college education."—GRIMKE.

remedy this, in part, we know of no better method than to interest the mind in the observation of nature, which is always around us to win our attention and call forth our imagination. Natural History is not the amusement of a day, but it opens an inexhaustible fund of enjoyment by enabling us to perceive the beauties of nature. It unseals that book in which are written the wonders of creation; it raises the thoughts and feelings, refines the taste, corrects and improves the judgment, gives mildness to temper, and amiableness to disposition, which soothe the frequent pangs along the rugged paths of life, and strew the vale of declining years with many a thornless flower, in the recollection of innocent enjoyments. It is the fountain of inspiration to the poet and orator, being the great source of metaphorical language, which gives a brilliancy to the imagination and force to eloquence. It inspires genius by giving it the elements of its action. It is the origin of painting, sculpture, and engraving; and to every art that dignifies or adorns it furnishes the material, and suggests the model. In teaching Natural History to children, then, we do but obey the dictates of nature, in introducing them to her countless wonders and varying scenes, where, if they wander, it is in innocence and light: we do but follow the footsteps of philosophy to her refreshing fountains, on whose flowery banks manhood may pause to contemplate and admire, and age at the harvest become renovated by a remembrance of the past, and be blest in the anticipations of a spring, when itself and all things shall be clothed in loveliness and beauty.

OBSERVATIONS ON THE STUDY OF THE LATIN AND GREEK LANGUAGES.

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(An Introductory Lecture delivered in the University of London, November 1, 1830.)

The object of the following address is to explain the mode of instruction in the Latin and Greek classes in this University; and also to lay down some principles of elementary education which may be useful to those pupils who intend to complete their studies here. The observations which I am going to make must be considered as the common opinions of myself and the Professor of Latin †, though I ought to remark, that, when one person writes, it is not reasonable to hold another responsible for every opinion that may be expressed, or for every fault that a curious critic may discover. I say this merely to avoid committing my colleague by anything that may inadvertently drop from me. On the general principles of our instruction we wish it to be understood that we are entirely agreed.

If I did not suppose that a large part of my hearers were either persons engaged in the instruction of youth, or parents solicitous for their children's welfare, or pupils

* Resigned July, 1831.
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themselves animated with a desire of knowledge, I should not venture to make a public address on a subject which it is difficult to invest with the attractions of novelty, and which admits not the soft and well-turned phrase that is so pleasing to the ear. It is a subject of great importance, requiring much experience and deep reflection before opinions can be formed; and its expounders must labour rather to convince the understanding, and furnish material for thought, than to gratify their audience by a display of words.

Before I explain our plan of instruction, it will be useful to make a few remarks on the reasons for giving to Latin and Greek so prominent a place in public education. Some of the best reasons will be found, I trust, in a judicious mode of teaching these languages; but there are general considerations which ought not to be passed over.

We might urge in defence of what is commonly termed a classical education, long-established usage, the authority of the most distinguished seats of learning, and the opinions or the prejudices of a large and wealthy class of our people. On the other hand, we must not overlook the fact, that, both in this country and elsewhere, the study of Latin and Greek is by some condemned as useless, or at least regarded as much less useful than other pursuits. To treat with contempt the arguments of the objectors is not the best way to convince them; nor are we likely to remedy the striking defects of English education by displaying its merits, without pointing out its faults.

I hardly know if any answer is due to those who condemn ancient learning in terms of abuse, calling it useless lumber, and qualifying it with other uncourteous

names; at least it is not my intention to attempt to answer them. Such persons are ignorant of that which they decry: they neither know what kind of knowledge it contains, nor have they considered the kind of mental training which is requisite to acquire it. Many defects in classical education are so obvious, that it requires no superior acuteness to detect them; and the opponents of the established system might perhaps get credit for some share of good sense and good intention, if, while they declaim against its errors, they would only be more tolerant towards its virtues. Differing from these persons altogether in our view of intellectual acquirements, we consider all knowledge to have its uses, and to be capable of giving pleasure: we admit some kinds of knowledge to be universally useful, and therefore necessary; other kinds have less direct or more remote uses. But in the social systems of the present age, where labour is so much divided and art so highly perfected, it is presumptuous to say that any knowledge is useless.

The question, 'What is the use of Latin and Greek?' cannot be answered till it is more limited; it is a problem which in this form cannot admit of an exact solution. It is the same thing as to ask, what is the use of measuring the earth, or the quantity of rain that falls on it?

A knowledge of these languages would be of no use to persons employed in laborious bodily occupations and in many mechanical arts; nor would a knowledge of the higher branches of pure mathematics, or the more difficult departments of any of the sciences, be useful to such persons. Besides, if such knowledge were useful to them, they could not afford the time and money necessary for its acquisition. But though the largest part

of the community are driven to early labour to procure the means of subsistence, there are still many who can defer the time at which they commence professional occupations, or the business by which they must maintain themselves.

It is for such that the higher kinds of schools—that colleges and universities are intended, in which they may receive that general education which will enable them to fill with credit and advantage the numerous situations that exist in all rich and commercial countries. The business of such places is not to teach immediately professional knowledge, though various branches of professional pursuit may be, and often are, profitably taught in such establishments: the main object is to give the kind of preparation which is necessary in all. It is usual to limit the professions to three, those of Theology, Law, and Medicine. Though certainly three of the most important, there are yet others which may be styled professions as distinguished from purely commercial employments: the business of a teacher, public or private, is a profession: so is that of a legislator, of an architect, of a sculptor and painter, and many more. The strictly professional part of these professions is often better learned, and sometimes necessarily learned, either in schools founded for the special object, or under private teachers. Now, shall the youths designed for such employments enter upon them at a very early age, and make their profession their sole study, or shall they first have a common kind of education and mental discipline?

Custom has determined that this previous education shall be given to youth, and people generally follow custom, without troubling themselves about the reasons

for it. But still there are some who argue in favour of making a professional education the only, or almost the only, object of attention; for whose consideration we offer the following remarks.

In a civilized country there ought to be an education provided suitable to the wants of every member of the community, of every member viewed as a part of the whole society. For people to know their real interests, and their obligations, is profit to themselves and security to the state; and according to the station which we are likely to occupy in social life, we should all be so trained as to discharge its duties, whatever they may be, with integrity and ability. Much of this useful training is acquired by mingling with students of the same age in public places of learning, where habits of industry and perseverance may be formed by a judicious course of study, and where the love of sound knowledge, and (what is only the same thing otherwise expressed) the love of truth and an earnest desire to discover it in all branches of inquiry, may be excited and strengthened. It is in such places that all that stock of useful information should be acquired which will furnish topics of common interest and inquiry to all men, and will often prove, in the midst of arduous engagements, or in the intervals of professional labour, a source of the purest and most unmixed delight. The pleasures of social life would be sadly diminished if each man knew nothing, and could talk of nothing but his own business: a system of castes, in some degree unavoidable where labour is much divided, would be rigidly maintained; and progress in improvement, which is the vital principle of society, would be completely arrested.

One additional remark may be made. The more

varied and correct the knowledge which a man possesses, the more likely he is to be useful in his particular station and profession. He will not be a worse doctor or lawyer because he knows something besides law and physic.

It is supposed that students who enter the Latin and Greek classes in this University have already made such proficiency as is required by the printed statements; and it might be sufficient to explain what course they pursue with us. But as the previous preparation is often imperfect (an assertion which I would not make if I were not sure that many of our pupils would bear testimony to it), I shall briefly explain what they might learn before they come here.

Both in England, and in other countries, there are experiments in progress, the object of which is to devise the best kind of elementary education. As many of these experiments are conducted with great zeal and patience, and with a sincere desire to make improvement, we should watch their progress with care, and endeavour to profit by them as much as we can. But all inventors, or people who suppose themselves to be inventors, become passionately in love with their own devices, and are often surprised that others have not the same liking for them. While we admit, then, that much, very much, is bad in our system of English education, we must not suppose that every thing new is therefore good: we must show that a new thing is better than an old one, before people will be inclined to shake off habits that are inherited, and usages to which time has given the character of sanctity.

It must be admitted that in all education, not professional, the discipline to which a youth is subjected is

more important than the knowledge which he acquires. The knowledge is often directly useful, besides having many collateral and remote uses; but in the mode in which it is acquired consists the chief value of the acquisition.

To prepare, then, the youthful mind for higher and more difficult investigations, shall we begin with the Latin language at a very early age? or shall we teach, as some (though I believe not many) would do, a science with its technical terms? I think we should do neither. The study of language, as a branch of knowledge, and as a mental discipline, must be preceded by other knowledge; and to teach the nature and properties of matter organized or unorganized, as a science, is not practicable until a stock of language is acquired.

Some judicious teachers have observed that the natural objects around us are those to which youthful attention is most easily directed. Their obvious qualities it is of the first importance to know; and this knowledge is literally useful. These teachers would direct attention to the outward structure and habits of animals, to their most striking characteristic differences, and they would explain their economic uses. They would, in fact, teach Natural History by living specimens, by engravings, and by familiar description. In the same way they would teach the obvious properties and uses of vegetables and minerals. Things thus become known; at the same time that language is learned, it is extended; and it may be learned with more precision, because distinct notions become attached to words. It is easily seen, too, how important it is to attend to minute differences in words, as these often indicate great

differences in things, and must therefore be used with accuracy.

If there is any fundamental principle in education which is indisputable, it is this: the first part of a child's education should have for its object to make him understand his urgent necessities and the modes in which they are satisfied: this brings him at once into direct relation with external things, and leads him to a more careful examination of them. But it does more than this: if well directed, this first part of education is the proper introduction to the knowledge of that social state into which he must some time enter.

Another branch of study of early interest, and of direct utility, is Geography, not on an extended scale, but within its proper limits. There are ample materials for early instruction within the boundaries of our native country, without oppressing a pupil with descriptions of foreign countries which he cannot comprehend. It would be easy to connect with these studies some easy instruction in the art of representing objects, an art of immediate utility in forming the hand and the eye, and afterwards applicable to innumerable purposes of profit and pleasure. To these we must add, as essential, the knowledge of quantity, or Arithmetic, which, when taught in a rational way, forms one of the best kinds of discipline.

I believe that instruction of this kind will be a better preparation for future knowledge of every description, and particularly for the study of language, than the usual elementary education given in this country. It must be distinctly understood that I limit this previous instruction to what is simple; it excludes all theories

and systems, and as many hard words as can be dispensed with.

One of the most important studies for all persons, is that of human speech, and of written language, which is its visible form. Language is the medium by which knowledge is communicated and preserved. When used with precision it is the means of instructing, convincing, and persuading: its misapplication leads to confusion in our conceptions, and to many very great errors in the science of morals, legislation, and other kindred subjects.

It is supposed, by some teachers, that the study of the native language is sufficient. It must be admitted that it may be taught independently of any other language in such a way as to give the pupil some insight into its structure, and likewise the habit of tolerably correct composition. But these ends can be better obtained by teaching the pupil another language, and by the practice of translation. If the student does not translate, he must have recourse to theme-writing or essay-writing, in order to learn what is styled 'the art of composition.' In general, a sentence containing some moral maxim is the text proposed, and this is to be fashioned and refashioned in all possible forms, until the pupil has produced, for the task-master, the required amount of labour. This is a bad exercise—to demand reflection and words, when the material has not been supplied.

The advantages of translation are these. We learn our own language better by labouring to transfer into it the ideas attached to the words of another language. It is not till we compare one thing with another that we understand the properties of either; and the acquisition

of a new language (those who have not tried must take it on credit) is like the acquisition of a new power. It is so indeed with all kinds of knowledge. The exercise of translation may be made at first very easy; as when the subject is a simple narrative. It is a somewhat more difficult and higher exercise to translate the language of oratory; and it is an undertaking of the greatest difficulty, requiring a matured judgment, when we attempt to translate works that treat on metaphysical, moral, and political science. Thus translation furnishes us with the means of proportioning the difficulty of the task to the power of the pupil, and tends to defer the day at which the youth first tries his strength in original composition. Opinions may differ on the value of the exercise of translation as viewed here; but many careful observers think that very early attempts at original composition are unfavourable to future excellence.

The Latin and Greek are the two tongues that we use for the instruction of youth in the Science of language. As other nations besides ourselves use them for the purpose of instruction, there must be some common reason for it. A knowledge of a modern language, it seems, is not considered sufficient; and perhaps it is supposed, which is quite correct, that modern languages, as a general rule, are acquired with more ease and completeness when a youth has gone through a good training in the ancient tongues. This doctrine, however, does not oppose the learning at least one modern language, the French, at an early age, and in connexion with the Latin; by which kind of comparison between the parent and its offspring, we believe that both might be learned with more accuracy and ease.

The use of the Latin has not been a matter of choice;

it has descended to us from our fathers, like many other things. The western part of Europe dates its history and its social improvement from the era of the Roman empire. From Italy the Latin language was spread into the provinces, where it became the language of law and of administration, and, by consequence, of the educated; and, by the establishment of Roman colonies, it must have become too, in many places, particularly in towns, a popular tongue. Through violent political storms it was cherished by the learned few, and by the church; for to the church particularly we owe its preservation. Latin has not yet ceased to be a common medium of communication for scientific men and scholars, though it does not possess its once exclusive empire.

The Greek language belongs to Eastern Europe and to Asia, in many parts of which it continues to be written and spoken to the present day. Changed, indeed, but not deprived of its essential character, it has had a longer existence than any other language of which we have written evidence. The introduction of this as a general study* into Western Europe cannot be dated as far back as three centuries. It became an object of curiosity from the knowledge which it contained; and we owe its early cultivation quite as much to those who studied its scientific works, as to the admirers of Grecian eloquence and poetry. The writings of the

* Greek was well known to learned individuals in western Europe and Great Britain long before the so-called revival of letters. Indeed it may be asked, when was it ever totally unknown in France and England, after the introduction of Christianity? Richard de Bury, Bishop of Durham, writes in 1344, "We have taken care to provide for our scholars a Hebrew as well as a Greek grammar;" yet this was not an age of great learning (See Philobiblon, London, Thos. Rodd, 1832.)

Greeks on mathematics, geography, astronomy, medicine, and natural history, &c., were calculated to give an impulse to the age. It was soon discovered also that Latin and Greek were parts of the same thing: they were found to be kindred languages; the history of one was interwoven with the history of the other. Neither can claim the privilege of primogeniture, but both derive their pedigree from a common and far-removed ancestor.

The political empire of the ancient world was divided between them; nor did the influence of the Greek cease when the Roman soldier had occupied the kingdoms of the Seleucidæ and the Ptolemies. It still traced the antiquities of the imperial city, recorded its triumphs, and continued to be the annalist of the feeble empire of the East.

The intrinsic merits of the Greek language for copiousness, perspicuity, and capability of exact classification, and the excellent models which it offers in the historical style, in oratory, and in the drama, have preserved and extended the study of it. For the theologian the Latin and Greek languages are a professional study; and accordingly some of the greatest masters of ancient learning have been found among the clergy.

Latin and Greek have, by various causes, some of them just alluded to, become interwoven in every form of our social life. The terms of most ordinary use, as well as those of science, show the traces of this intermixture as distinctly as we observe in some countries the blending of different races of people. We cannot destroy the relationship were we ever so anxious to do so. The history of our civilization, traced to its source, contains the history of those nations from whom

we received it; and so far the history of Greek and Roman civilization is part of the history of our own. What we have received from these past times is an inheritance which we should try to turn to most account: it would be foolish to throw it away; it would be still more foolish not to try to improve it, or to retain any part that is not worth keeping. These considerations may serve to explain why, out of all ancient languages, the Latin and Greek are made the subject of education. There are other ancient languages, such as the Hebrew, the Coptic, the Sanskrit, and several more, which employ the industry of many scholars; but they are neither so intimately connected with the progress of our civilization, nor do they possess the advantages for youthful discipline which the other two do.

In explaining our mode of instruction in the Latin and Greek, I shall speak as if the whole business were carried on within these walls from the commencement; and I do this, not because I suppose that all plans are bad which differ from our own, nor that any faultless plan can be devised, but that those who are preparing pupils for this place may unite in making their instruction and ours parts of one scheme. Again, I should not volunteer any suggestions for elementary education, if I did not know, both from direct communication and otherwise, that many teachers wish to possess a more complete development of what we attempt to do. They will thus at least know more precisely the kind and degree of knowledge that our pupils ought to come with, though they may in some respects differ from us in the mode of imparting this knowledge.

The use of Latin and Greek consists, first and principally, in the mode in which these languages are

taught; and on the mode will depend, secondly, the amount of exact knowledge obtained. This latter we believe to be a secondary consideration; but I shall still endeavour to show that the amount of useful knowledge attainable in a good course of classical instruction may be increased much beyond what it ordinarily is. We suppose that our students in general will terminate their classical studies at an earlier age than they do in the two ancient Universities of Oxford and Cambridge, and that they will proceed from the study of Latin and Greek to some other branches of learning, or that they will begin to combine professional with general education somewhat earlier than is now usual. But we do not, therefore, suppose they will not learn Latin and Greek well: we know that both languages can be learned well in much less time than they are often learned very imperfectly. The student may begin later, and he may end earlier; he will end with the instruction of the teacher, but he will be endowed with the power and the wish to continue the labour of self-instruction.

The study of the ancient languages is generally commenced too soon. The age should depend partly on the capacity of the pupil, but principally on previous acquirements of the kind which have been described. The early age at which the Latin language is begun is the chief reason why the grammar system continues. In youth the memory is retentive, but the understanding is unformed; the accidents of words and the precepts of grammar can be committed to memory, and repeated long before they are understood. According to the grammar system both teacher and pupil do all that they can do; one repeats, and the other listens;

the duties of both become mechanical, and consequently irksome.

An elementary grammar should be very short and simple; it should exhibit nothing more than what is technically called the accidence, which comprehends the declensions and conjugations. Nor should even this grammar be committed to memory as a preparation for the study of the language, but it should be used as a book of aid and reference in connexion with the teacher's instruction. To learn a language, the pupil must have a language before him. He must see specimens of the material on which he is called to exercise the faculties of observation, judgment, and memory. Some short sentences then, at least, are necessary for a beginner; and they are perhaps better than a continuous narrative, because the latter is very seldom found to be simple and clear enough in the structure of all its sentences. A short sentence, containing one proposition, is much easier than those found in consecutive description, which necessarily requires all the modes of speech which constitute a language. As a continuous narrative, however, possesses the great advantage of attracting the pupil's attention by the nature of the subject, this is so far a good reason for preferring it; but it will be found to be a great aid to the student, and an almost necessary one, to break up each complex sentence into distinct propositions, or simple sentences, for the purpose of avoiding at the commencement the difficulties inseparable from long and involved periods. It woul be easy to form the first book of Cæsar into short sentences of the kind described, and to bring the student to the examination of the complex sentence after he has mastered all the varieties of the simple proposition.

But how is the pupil to prepare his lesson, to find out the meaning of this new language? Shall he try to do it with the aid of a general lexicon? Shall we ask him to perform the work with a bad or imperfect instrument, which he does not know how to use?

Some elementary books are furnished with a small lexicon, adapted to explain the words of the book in the sense in which they occur. This is a great improvement. Some teachers recommend what is called a literal translation, accompanied occasionally by one more free and elegant.

Perhaps the oral instruction of the teacher is better than all for young learners. It is the essence of good teaching to make things easy to be understood, and pleasant to learn; and this may be done by the teacher explaining to the pupil his short lesson, by giving him the meaning of each word, and by pointing out, as soon as he thinks it advisable, the modifications which its ending or termination undergoes from its connexion with other words. This is, in fact, teaching the elements of grammar; for which purpose it will soon be found useful to have a book that shall contain the general form or models under which are comprehended all the particular instances that the pupil can meet with in his lesson. It *may* be found convenient for the pupil even to commit to memory the general forms or examples of this grammar; but certainly not before he has frequently met with particular instances in his reading, and has been led to observe the advantage of comparing them, and arranging them for the purpose of aiding the memory. After the student has received instruction in his lesson, there remains the business of examination, which consists in proposing questions, in presenting the matter

in all the varieties of which it is susceptible, and thus leading the pupil to observe in new sentences, without the teacher's aid, the facts which he has already learned. The teacher may soon vary the lesson by the reverse operation of giving the pupil the English expression, and requiring him to repeat and also to write the corresponding Latin. In this way words are learned with their grammatical accidents, and, what is quite as important in a language, the proper order of words is acquired. A system that teaches by transposing the words of a language, ancient or modern, is not good.

It will be observed that this reverse operation is really almost the same thing as committing the lesson to memory; and when the lesson is well understood in all its parts, it is found, by experience, to be a good exercise to commit a small portion of it to memory, and one attended with very little trouble. A proper examination into every word will prevent its becoming a mechanical task. When I speak of committing part of the lesson to memory, I do not wish to be understood as recommending this practice to be applied to every lesson during a long course of instruction. The advantage of knowing by heart a portion of an author is briefly this. A student will make the part with which he is so familiar the test and the standard by which he will try and estimate the various words and phrases that occur in other parts of the book. It will be a grammar, because it has been carefully analyzed and thoroughly impressed on the memory by a proper study; and it will be more than a grammar, as it will furnish a great variety of modes of expression, applicable to the explanation of similar phrases that may occur. It is, in fact, the next thing to making the dead into a living language.

All the advantages to be derived from this practice are obtained by committing to memory the first ten or twenty pages of the book which is made the basis of the student's knowledge of a language. For we think that *one* book should be made the basis of all this knowledge, and that this book should be a prose author.

It is almost unnecessary to remark, that committing a lesson, or any thing else, to memory before it is understood, is just the reverse of what we are labouring to recommend.

In learning a new language we should begin to read an entire book as soon as we can; one that will give the teacher an opportunity of connecting with his grammatical instruction useful remarks on the subject-matter generally. A book of prose is better than one of poetry, though some kinds of descriptive poetry may be occasionally used with profit; and a narrative or history is better for a young pupil than oratorical declamation or books on moral subjects.

When a student has made some progress, and when he has begun to read an author, he must be taught to observe more accurately the relationship of words to one another, or the idiomatical usages of the language. These usages, when classified, are comprehended, at least part of them, under the head of syntax; and it is not unusual for the rules of syntax to be committed to memory long before the student either wants them or understands them. Sometimes, too, the rules themselves are written in Latin, and, as all may recollect who have been subjected to the experiment, they are for a very long time either misunderstood or not understood at all. If a complete system of rules is committed to memory, many of rare occurrence and some of doubtful character

occupy an equal rank with those of constant use and indispensable necessity. Besides all this, why should we make our mode of acquiring this particular kind of knowledge different from the ways of getting all other information? Knowledge consists of facts observed, arranged, and remembered, and the chief value of it often lies in the habits formed by the labour of acquiring it. For these reasons, we would teach syntax, at the commencement, entirely from observation, explaining to the pupil each example as it occurs, and leaving him to discover similar instances himself. Instead of requiring a rule to confirm a case of particular usage, it will be found quite as simple to ask the pupil to produce from his own reading one similar example, or more. Difficult modes of expression must be repeatedly explained by the teacher, who will find that the book which the class is reading furnishes the best materials. For a pupil somewhat advanced, a larger kind of grammar, containing a complete syntax, is useful, and even necessary, to serve as a general storehouse whence he may derive additional examples, or new illustration, or the confirmation of that which he has already acquired. The comments of professed scholars, too, become useful guides for the student, as he proceeds to the perusal of more difficult authors and to the more critical study of the language. But no set of rules committed to memory, and then applied to books, will either form a sound scholar, or, what is infinitely more important, create habits of patient observation and just judgment. A man might be acquainted with the results of many profound inquiries in physics and in all the various sciences; he might take them on credit, and act as if he believed them to be true; but his understanding would not be

one jot advanced above that of an uninstructed workman. If the knowledge of all facts and the conclusions of all research could be poured into a man's mind, without labour of his own, he would be less really wise than he who has been properly trained to work the rule of three.

There is an objection to the study of syntax as taught in grammars which needs to be stated. Syntax, or 'arrangement,' is that branch of grammar which affects to explain the general principles by which the order of words in any language is governed, and the modifications which the several words composing a distinct sense undergo in consequence of their being subordinate to this order. Language consists of words, and the order of words, as just explained. Each language has an order of words peculiar to it, such as the Greek, the German, the English, and others; not an order so fixed that there can be no deviation from some general formula; but still an order which positively disallows many collocations of words. The common rules of syntax do not treat of this part of the subject; they seem to treat only of the modifications of the several words, owing to their relationship to other words in the sentence. All languages are composed of sentences, or of parts into which a discourse easily distributes itself. All sentences contain assertions, facts, or, properly speaking, premises; they also contain inferences or conclusions, either obviously and clearly, or tacitly and obscurely deduced from these premises. The process of reasoning then is necessarily included in the form of every language; and as the principles of logical reasoning are always the same, these principles are applicable and should be applied to the analysis of all language.

To point out the difference of the form which equivalent sentences assume in one language, such as Latin or Greek, and in our own, is a part of syntax properly taught; and syntax, when made what it ought to be, is inseparable from some instruction in the science of logic *.

I shall now endeavour to explain more clearly the advantage of translation, graduated in difficulty according to a pupil's progress, and the kind of information to be derived from classical studies; and, as part of the same subject, I shall attempt to show the use, the necessity, and the ease of studying language according to true etymological principles.

All languages, and particularly written languages, consist of a great number of words, to which are attached certain ideas. The uttering of a sound, or the exhibition of its written representative, is the mode by which we communicate the impressions made on us by objects of sense, and also the result of mental operations. If each idea had a sound or word to represent it, language would be almost unattainable, from the number of its component parts. But the same word has various meanings, some primary and more common, others derived and less common. The ordinary and primary meaning of a word indicates in general the immediate impression made on the organs of sense: hence a large class of words are only imitations of natural sounds, which the human voice can produce with ease, and can thus, even in the

* See an article on parsing (by Mr. Alexander Allen of Madras House, Hackney) Journal of Education, No. XX., which is referred to not so much to illustrate what is here said, as to show what may be made of 'parsing,' as it is termed, in the hands of those who know how to manage it.

absence of the object, make it present by one of its sensible properties. A serpent *hisses*, burning wood *crackles*, falling timber makes a *crash*, and heavy iron chains *clank*. The words *even*, *upright*, *smooth*, *crooked*, denote sensible properties of matter; but we apply the same words to denote our judgments of things of a moral nature. We say that a man's temper is even, and his conduct is upright; or we may sometimes have occasion to say, that though his manners are smooth, his dealings are very crooked. The usage of words in these secondary senses is vague in all languages; and it is particularly so in that class of words used to express praise and blame. Writers on moral and political science often labour to give stability and precision to terms which in popular language express nothing definite. Many such words still move about in ordinary society; they are well received and often entertained, but nobody thinks of asking who or what they are.

Now this more exact study of the meanings of words, or their primary and derived senses, is very much facilitated by the teacher requiring the student to point out, in the lecture-room examination, the original meaning of the word, and to trace from that its other remoter meanings. This kind of investigation is often a real historical inquiry, involving more research and more knowledge than a pupil possesses; but the teacher can direct his inquiries, and supply their deficiencies, and correct any erroneous conclusions. But by written translations, an exercise of the greatest importance, the pupil will be taught to study more exactness than is practicable in oral translation: he will select words with more ease, weigh them with greater

accuracy, reject what is superfluous, and labour to express in simple and perspicuous language exactly as much as is contained in the original, and neither more nor less. It is the teacher's duty to examine these exercises, to point out their defects either in the mode of expression or in the interpretation; and it will be found a very useful part of instruction for him to take one or more of these exercises, and to make their merits or defects the subject of remark to all the assembled class.

The books used for instruction in the Latin and Greek are most commonly books of history, oratory, epistolary correspondence, moral philosophy, and the various kinds of poetry. They have been chosen because they treat of topics of most general interest, and are written in that style of language which may be called the popular or common. For it should be observed, that language is of many kinds, and that each science has a language of its own, which is only understood by those who know the science. Many books in the English tongue are unintelligible even to a well-educated man, if he knows not the things of which they treat. In Latin and Greek, then, we do not read with our pupils the works of Hippocrates, Galen, Aretæus, and Celsus; because neither we nor they understand the science of medicine. We all know that it would be very tiresome and unprofitable to read about things which we cannot comprehend.

But the books that we do read treat about things also, and if these are not understood or explained, we lose much of the profit that might be derived from them. Let us make a short enumeration of the books that are commonly studied in schools and colleges:

they are Cæsar's Gallic Wars, Cicero's Correspondence and his Orations, Tacitus, Livy, Virgil, Horace's Satires, Epistles and Odes, and other books in the Latin language. In Greek we read Xenophon's Military Expedition of the younger Cyrus, Herodotus's History of the Wars of the Greeks and the Persians, Thucydides, the Orators, Homer, the dramatic writers, and others. As all students, before they come to the study of these writers, have read similar works in their own language, they are better prepared to understand them than the medical works I have mentioned, or the Greek text of Euclid, where the subject-matter being entirely strange would render the language incomprehensible.

But the books used in the common instruction in Latin and Greek contain a great number of things that require explanation; and it is this part of our public education which appears to me to be most defective. It is not uncommon for students to read many of the best authors without paying any attention at all to the subject-matter, which, if properly explained, might be made the means of connecting with the study of the ancient languages much information directly useful. The slight attention that is paid to the historical facts, seldom extending beyond a chronological arrangement of them, and the imperfect way in which geography is studied, hardly deserve mention. There is not a book that can be named of the classical authors usually read, which does not furnish a teacher with innumerable opportunities of instructing his pupil in some fact or other, *necessary* for the better understanding of the text, and *valuable* because it is knowledge. A short enumeration will explain my meaning. In historical writing we find

alluded to or described countries and their products, rivers, mountains, cities, temples, coins, laws, commerce, and political events; different races of people, naval and military warfare, and many other things. These, when arranged, will comprehend the political history of a nation, the history of different national stocks, comparative geography, the study of coins and medals, of natural history, physical geography, the history of commerce, the history of the law, &c. A boundless field of inquiry is here opened to the zealous teacher and the aspiring pupil; and though our education is yet too imperfect to enable any teacher to command this wide range of knowledge, it is still possible for him to conduct the pupil through part of it, and to point out the track to be pursued. It may be said by those who would rather decline the labour which is here proposed to them, that this kind of instruction would lead the pupil away from his legitimate object, which is the knowledge of the language, and that after all his labour he would learn nothing at all. This will not be the case under a skilful teacher. The amount of explanation should be varied according to circumstances; it should depend on the pupil's age and on the book that he reads. If this book be Cæsar's Gallic War, the pupil can learn, by the aid of his teacher's instruction and a good map, the positions and names of all the places in modern France that represent those mentioned in Cæsar. He will also hear occasionally short topographical descriptions, which always please and instruct youth; and he will often be tempted to make inquiries himself when his teacher has not satisfied curiosity, or has referred him to books for further information. The pupil will be taught also to

compare the ancient Gallic boundaries with the various frontiers of modern times, and to trace in the mountains, rivers, provinces, and departments the names that existed when Cæsar was in Gaul. He will receive incidentally some little information on the way in which these positions and facts are determined; and they will be recalled to his memory by frequent examination. Thus he will learn tolerably well the modern geography of France, and he will know more about the country than a great many who have travelled through it.

It would require a separate examination of each book to explain the particular kind of illustration which it requires. In the perusal of such an author as Herodotus, so extensive and varied will it be found, that the teacher must use much judgment in not overloading the pupil's mind, which would be as great an error as the usual system of leaving it unfurnished. The great advantage which may be derived from explaining the subject-matter of the ancient authors is, the power of attracting each student by the variety of the entertainment. One will find his chief amusement in etymological inquiries, in ascertaining the roots of words, and comparing them in Latin, Greek, and in the kindred tongues; a second will find more charms in studying the ancient sites of cities, their ruins, coins, and other works of art; and a third may find most pleasure, in his advanced studies, in examining political events and legislative enactments, or in tracing the progress of navigation and commerce n the writings of antiquity. Thus each for his own particular purpose may have a motive for joining in the common pursuit; and he may carry away a treasure of useful facts and pleasing associations, by which his future professional studies will be aided and adorned.

In the business of active life we cannot always be labouring at one thing: we require amusement and relaxation, or at least variety; and the most rational and most enduring of pleasures are found in improving and extending our youthful studies.

I shall conclude with explaining the etymological mode of teaching the Latin and Greek, much more briefly indeed than the importance of the subject demands; but I hope I shall succeed in demonstrating its utility, and attracting more attention to the practical uses of this branch of philological inquiry.

The study of the Latin and Greek languages is facilitated by the regularity of their etymological structure; a fact universally admitted with respect to the Greek, but equally true, though less observed, in the Latin. When the etymological part of these languages is learned by the aid of a proper classification, the value of the study as a mental exercise is much increased: attention is excited, labour diminished, and the foundation is laid of a sure and rational method of prosecuting the study of any other language. When the student shall advance in his inquiries into the relationships and differences of the kindred tongues of Europe and Asia, he will find a high gratification in extending those views which were presented to him in his elementary studies.

An examination of the words of a language, such as our own for example, will show us that the roots or elements are not numerous, when compared with the whole number of words. In many examples we see one element with a distinct signification modified by parts added to the word, commonly called affixes or suffixes. Thus we have *love*, *lov-er*, *love-ly*, *love-li-ness*, in all

which instances the notion of *love* receives a particular signification by the addition of the various suffixes. We find too, on examination, that the *same* termination is joined to a great number of words, as *wood-en*, *flax-en*, *earth-en*, *wool-en*, and then the new word denotes hat the objects to which this term is applied are made of these materials. The same termination in the Greek language gives the same signification, as πηλ-ιν, ος, ξυλ-ιν, ος, &c.

Sometimes we can discover, either in the same language or by the aid of the kindred tongues, that this termination is really a distinct word with a definite meaning: thus, in the examples *love-ly*, *low-ly*, we know that the termination *-ly* is an abbreviated form of the word *like*, in which way it is still distinctly pronounced in some of our provincial dialects. Again, in other cases, as in the words *wood-en*, *flax-en*, &c., the modified meaning of the new word is only ascertained by comparing a great number of examples.

This kind of classification forms the basis of the more accurate etymological instruction in the Greek and Latin.

Our elementary grammars, and even many that are not elementary, contain little more than the accidence under the head of the nouns and adjectives. This accidence only exhibits the various terminations, or cases (as they are technically called) which these words admit, owing to their connexion with other words in sentences. The pupil should certainly be taught, from his first acquaintance with the Latin nouns, to distinguish the root or elementary part from the various case-endings; and in this way he will be trained for the more complete etymological examination of the language. But when merely

the cases are learned, the pupil has made only small progress; every new word that he meets with is a stranger, with whom he has to form an acquaintance. To save the trouble of a separate introduction to all, it will often be found enough to know some relations of the family. The simplest relationship that we can suppose is where one noun is derived from another, or for convenience' sake may be said to be derived. When a pupil knows the nouns *merx*, *via*, *nugæ*, *pax*, he should be taught to observe that *merc-ator*, *vi-ator*, *nug-ator*, *pac-ator* contain respectively the same elementary syllable as *merx*, *via*, *nugæ*, *pax*, &c. when stripped of their case-endings, and that a new meaning is given by the addition of the syllable *-ator*. Or, suppose that the pupil first meets with *merc-ator vi-ator*, &c. he should be taught to observe the common ending of these nouns, and that by adding a different termination, as in *vi-a*, he has a new word with a different meaning.

If the pupil is acquainted with any words that are called verbs, or verbal roots, his vocabulary will rapidly be extended by the addition of *am-ator*, *ar-ator*, *imper-ator*, &c.; and, as a further step, he will find a long list, in which the syllable *-tor* is not preceded by a vowel, but by a consonant of the root. Thus he will discover and arrange in his note-book, *duc-tor*, *vic-tor*, *fac-tor*, *lec-tor*, &c. He will then begin to consider (for the advantage of this system is, that he will think while he is learning Latin)—he will consider, or he may ask his teacher, if *lic-tor* is related to *lig-o*. The regular form would be *lig-ator*, like *ar-ator*, &c. Another question will now arise, why have we a *g* in *lig-o*, and a *c* (which in fact is a *k*) in *lic-tor*? The teacher will then be led to explain the powers of the letters, which depend on the way in

which they are formed by the organs of speech; consonants *similarly* formed by the same organs, such as *b*, *p*, *m*, are interchangeable; and other consonants, according to the same principle, occur generally in certain pairs or groups. Thus we find *mp*, *mb*, *nd*, *nt*, *kt*, *gd*, and other similar combinations. It is no argument against this general principle to say, that inscriptions, both Greek and Roman, often present such combinations as *np*, and that our present orthography of the ancient writings is not always correct. If an *n* precede a *p* in any language, the sound of the *n* will be modified; if it is not changed into that of *m*, it will be as near it as possible. In an inscription, or even in a book, it is quite unimportant whether or not *m* is written instead of *n* before a *b* or *p*; the eye sees the modifying consonant, and the mouth regulates the pronunciation accordingly. In our printed books then, where the written letters are in such cases adapted to the sounds, what we have to do is, to explain to the pupil the reason and the reasonableness of the present orthography.

When the nature of the letters is understood, the pupil will recognise the relationship of words, even though they may be partly disguised by appearing in a shape somewhat different. This remark is more particularly applicable to the Greek language, where the final consonant of a root is so frequently modified by the initial consonant of the termination, as in λα(μ)β-ανω, λημ-τος, συλ-ληβ-δην, λημ-μα. A proper study of the powers of the letters is also closely connected with a *rational* examination of the elementary principles of prosody; I say *rational*, because the grammar rules of prosody are often both imperfect and incorrect, and do not sufficiently connect the study of prosody with that of the etymological formation.

In examining the verbs, we cannot fail to perceive that the various forms of the tenses are really new words, which have their precise signification determined by the suffixes. The tenses of such a verb as *ag-o*, viz. *ag-ebam*, *eg-i*, *eg-eram*, *ag-am*, are all arranged in the grammar, and even committed to memory very early, as well as the tenses of the subjunctive and infinitive. But these forms are of infinitely less use for a young student than a knowledge of many other derived words containing the same element *ag*. Thus we have *ac-tus*, *ac-tor*, *ac-tio*, *ag-men*, *ag-ilis*, and others, not only of frequent occurrence, but belonging to classes which contain as many examples as the tenses of the verb do. Of the class of *ag-ilis*, we have *fac-ilis*, *hab-ilis*, *hum-ilis*, *ut-ilis*, &c.; and of the class *ag-men*, we have *nu-men*, *flu-men*, *lu-men* (luc-imen, from luceo), *no-men* (from no-sco), &c. The inference that is deducible from all this is, that boys should be early, very early, taught to compare words in this manner, and to classify them, for the purpose of aiding the memory, improving the understanding, and learning the language more expeditiously and completely. Perhaps some teachers may not have observed that a boy may read the whole *first* book of Cæsar without knowing any other part of a verb except the third person singular and plural; but he cannot read the same portion without meeting many instances of the kind of words which have been enumerated.

By this examination of the forms of words the student does not learn them singly, but in classes. In each word he sees a root which has a distinct meaning; he observed also a termination and its modifying power. Should he then find a word that he has not

before seen, but with a termination that he is acquainted with, he examines the root part; and if he should have met with that root before, even in a different kind of word, he will be able to conjecture the meaning of the new word with probability, and often to determine it with certainty.

When a teacher proceeds in this manner, pointing out to a student the various forms of words in which a common element occurs, he must necessarily remark, or if he does not the pupil will, that there is often some difference of meaning in these words, more than will be accounted for by the difference in the suffix. It is an important object then to endeavour to assign to the root or element a primary signification, from which may be deduced, both the various meanings of any one word in which the element occurs, and also the various meanings of all other words formed by different suffixes, and containing the same root.

An example will make this clearer. The primary notion of the word *reg-o* is *to make straight*, or *to make a straight line;* hence are derived the meanings of *to direct*, *to control*, and *to govern*, in a political sense. The word *rec-tus* means *straight*, opposed to *curved*, *crooked; recta linea* is a mathematical right line. From this notion comes that of *right*, in a moral sense, as opposed to wrong. *Reg-ula* is a *carpenter's or workman's instrument*, by which he ascertains the evenness of a plane surface, or the correctness of a straight line: hence we have the word used in the sense of any *rules*, or *directions*, the object of which is to keep things, as we say, straight. It is unnecessary to say more on this subject; but I must remark, that, in the present state of our school lexicons, instruction of this kind is *essential*

to prevent a youth from being embarrassed by the *number* of meanings given in lexicons, and by the want of order in their arrangement; and also to furnish him with that primary notion which our lexicographers, in the number of their words, have often forgotten.

The connexion between the Latin and Greek languages forms a useful subject for comparison, particularly for the more advanced student. He will often be led in this manner to assign to words more accurate significations by a comparison of their usage in both languages; and he will be taught to distinguish between Greek words really and historically incorporated into the Latin, and *vice versa*, and those which are the common property of both languages, and are found also in other kindred tongues. A student should be taught too to observe the characteristic *differences* between the Greek and Latin; and his attention should be directed to that class of Latin words and forms which indicate the intermixture of another language.

It is a common error of lexicographers and others to mark a number of English words as derived from Latin and Greek, which in fact are the common property of many tongues. The words *geography*, *astronomy*, *empiric*, *direct*, *inspect*, and many more, are really Greek and Latin words, which have been, within historical limits, introduced into our tongue. The words *geology*, *gastronomic*, *physiorama*, &c., are words that we have manufactured out of Greek materials, because we wanted them. But this class of words must not be confounded with such as *to lick*, *to know*, *to bear*, *to break*, &c., and many others, which are common to the English, Latin, Greek, and Sanskrit. These are elements which belong to one of these languages as much as to another: we observe the fact of their being found in all,

but we know nothing historically of the origin of this communion of property.

It is part of our plan to teach our students to write both Latin and Greek prose; exercises in the writing of a language being as necessary for its complete acquisition as the more common practice of reading. The exercises consist of English sentences, which contain examples of the peculiar idioms found in each day's lesson. The student has not recourse either to a grammar or a dictionary to find the tense, case, and words to be used; all he has to do is to refer to the part of his lesson in which he will find the model to be imitated. These sentences are at first very simple; but the exercise may be progressively increased in difficulty by giving the student a series of sentences containing a continuous narrative. In the junior Latin class, Cæsar and no other book is the model: in the junior Greek class, the Anabasis of Xenophon. Our more advanced students, who have begun to feel that their higher attainments must depend principally on their own exertions, are recommended to translate a portion of a Latin or Greek author into English, and after a short interval to re-translate it, comparing their own labour with the original. They can thus correct what is faulty by the aid of an unerring standard, and attain to a critical knowledge of the language by a method which is sure, pleasant, and universal in its application.

The use of writing Latin, as I have stated, is the more accurate knowledge of the language which is thus obtained; but I do not think that there is much advantage in making a student write Latin with the aid of a set of exercises with a rule at the head of them, and a dictionary to direct him in the choice of words.

To write Latin prose well is an accomplishment not common in the present day; nor is it any great reproach to a Latin scholar to say that he cannot write the language as well as Muretus or Ruhnken. It is less directly useful now than it was formerly, but it is still not without its uses.

A person may learn to write Greek perhaps with less trouble than he can learn to write Latin well; and we hope that in a short time the use of it will be felt. When the scholars of England, or France, or Germany, address the professors of Ægina, Athens, and Argos, the language of ancient Greece should be the medium of communication.

The principles of Latin and Greek prosody are taught in connexion with the development of the etymological formation of words, and the perusal of the Latin and Greek poets. It is not part of our plan to teach versification; for we are of opinion that the mechanical process of making verses is unfavourable to a proper understanding of prosody, and also to the learning of the language, besides being a great waste of time. But as opinions differ on this matter, I shall say nothing more about it, leaving the discovery and the display of all the merits of verse-making to those who are so much better qualified to do it justice.

The examinations are held three times a-year, the last and most important being at the close of the academical session. It is our plan so to frame the questions, and so to select the passages for translation, that it shall be a real examination into what has been taught in the lecture-room. Our instruction and our examination are thus parts of one whole. Every day that a student is absent something is explained, or some passage of

a book referred to, which *may be* a subject of inquiry in the examination. A constant motive for exertion and punctuality is thus maintained by making the pupil's success in the annual examination depend on his attendance on the daily instruction.

I have now explained the general principles by which we regulate our course of instruction, and I have endeavoured to assign reasons wherever our practice differs from the ordinary modes. Without presuming to suppose that these reasons will convince all who follow different plans, either old or new, I trust that our arguments may be entitled to some attention, and may tend to forward the improvement in elementary education, which has commenced, and undoubtedly will proceed. There is nothing which would exercise a more favourable influence on education, than for parents and guardians to take a little more pains in selecting proper schools for their children, and inquiring more particularly what it is that they do at school. Though many parents may not be qualified, by previous education, to judge of a youth's proficiency in mathematics and the dead languages, they may still use other tests quite as satisfactory as that of direct examination in the subjects taught. They may observe, whether the memory is overloaded with rules, hard names, and technical terms; whether, while learning Latin and Greek, they make proficiency in geography, the general outlines of history, and in the mode of writing and speaking their own language; whether they appear to be acquiring habits of punctuality, arrangement, and perseverance in finishing that which they have begun; whether the teacher has the art of giving them the desire of knowing more than the school exercises prescribe or require, and of inculcat-

ing the love of voluntary study. These are things which all may judge of who will only take pains enough to see into what their children are doing. I am not advocating any interference in the internal regulations of schools, which must be left entirely to the teachers: I merely recommend persons to watch more attentively the results of the school education, and to regulate their future measures accordingly.

To those who are ardent admirers of ancient learning I may seem, perhaps, to have pleaded its cause but coldly, and to have stripped it of its most dazzling attractions. It was my intention to do so. No studies have ever been recommended on grounds so weak; none have suffered more from the well-meant zeal of officious friends. The unskilfulness of the advocate has often well nigh ruined a cause which can stand securely on its own merits, if it be examined by competent judges. The simple and severe models of antiquity demand not the aid of the set phrase of rhetoric, nor the pomp of words, that only hides the littleness of thought. Like the noblest productions of the Grecian sculptor, they would only be encumbered by such ornament.

But though I have limited my remarks to the advantages for youthful education which result from well-directed classical studies, I am not insensible to the high gratification which they are capable of affording in more advanced age. Man finds the present too little for him; the anticipation of the future, and the contemplation of the past, are necessary parts of his existence; and his anxiety about what is to be, is perhaps almost equalled by his curiosity to explore that which has existed, and to revive its remembrance. Whether he

trace those stupendous revolutions which have changed the face of the earth, and given to it a succession of vegetable and animal life, or whether man and his history be the subject of his inquiries, it is still the same passion, ever active and never satisfied. The field of investigation is boundless, and the objects of curiosity inexhaustible.

From the national poem of Homer, which served as a bond of union to a widely scattered people, to the downfall of the empire of Constantine, and even to the present regeneration of the race, how large a portion of this period, which nearly comprehends the political history of mankind, is preserved in the remains of Greek and Roman writers. Were they lost or neglected, what a blank the past would be, and how many sources of pleasure should we leave untasted. The drama of Sophocles, and the eloquence of the great Athenian statesman, still live and breathe among us; the spirit of the past still animates and strengthens the present.

Two years ago we met here on a similar occasion, full of hope and expectation. A new era was commencing in the metropolis; a university was opened offering the advantages of higher instruction to all classes, but particularly to those who had before been excluded from it. After the experience of two academical sessions we begin to see the fruits of our labours. To the zeal, the industry, and the acquirements of our pupils we point with pleasure, for the confirmation of favourable prepossessions, or the removal of prejudice; and to our sister university of the metropolis, and the train of newly rising schools around us and her, we appeal with confidence as to the best testimony in favour of the original undertaking.

With such encouragement to exertion, with such honourable and general approbation, can we any longer doubt that an impression has been made favourable to the extension and improvement of public education in England? It is on the teachers that everything now depends: they must discharge their duties with diligence and good faith. They form one body, united for the noblest objects; their obligations, their interests, and their sympathies are the same.

As one of those engaged in the responsible business of public instruction, I would gladly see all my associates, of every class, and sect, and party, treat one another with respect. They should recollect that we have all one duty, which is, the instruction of youth; and that the example of the teacher will do as much as his precepts. I am sorry then to see those who try to persuade themselves that they are our rivals, while in fact they are our associates, take advantage of public assemblies, such as the present, to blame, in harsh terms, us who are their friends and well-wishers. But we have no fault to find with them; we bear them no ill-will; we rejoice to see them prosper in their undertakings, and we only pray, that the spirit of charity may temper the ardour of their zeal.

N.B.—Some small additions and a few verbal corrections have been made in this article. The conclusion, and a few other passages, it will be readily seen, had reference to temporary circumstances.

EXPOSITION OF AN IMPROVED METHOD OF TEACHING MODERN LANGUAGES.

By W. WITTICH.

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[As it is one of the objects of this work to describe establishments for education whose general merits appear to entitle them to this notice, so we conceive it a part of our duty to give publicity to modes of instruction which are founded on rational principles, and have been tested by experience—without however, in either case, holding ourselves responsible for all matters of detail.]

The acquisition of ancient as well as modern languages is justly considered one of the most important branches of education. The study of the ancient languages, particularly Latin, as a department of useful knowledge, and as a means of mental improvement, must be referred to a much more remote origin than that of modern languages. Indeed the study of the latter cannot be traced farther back than the fifteenth and sixteenth centuries, when a spirit of commercial enterprise began to animate the nations of western Europe, as the communication between them was then becoming more secure and easy.

The object for which the acquisition of each set of languages became desirable was different in its very

origin, and continues to be so. By applying himself to the ancient tongues, the student wishes to obtain access to that information which can only be fully acquired by the reading of ancient authors, and likewise to refine his taste by a close examination of the languages in which those authors clothed their conceptions. Thus the main object in studying the ancient classics is to improve the mind. It is not so with modern languages. The improvement of the faculties is not *the only* nor even the principal object for which *they* are acquired. The knowledge of *them* is desirable for *a more practical use.* By means of it the communication of nations that speak different languages is rendered more easy, more intimate, and more extensive. Hence it follows, that, in studying the Greek and Latin languages, all our efforts are directed to the acquisition of so much of these languages as will enable us *to read their classic authors* with ease, and to comprehend completely what they say. But the modern languages are principally learned for the purpose *of expressing* with ease *our own conceptions both in speaking and writing.*

The objects being so different, it would seem evident that they are to be obtained by different means; but with surprise we observe, that the methods used in teaching both sets of languages are the same; and still more strange must it appear, that the mode of studying modern languages has received no important improvement which had not previously been introduced into the teaching of ancient languages. These improvements are indeed not numerous. They do not amount to more than a single one, but, it must be confessed, one of great importance, which was introduced not quite a century ago. Before that period no other mode of teaching lan-

guages was known than that of explaining an author; and as a means of facilitating that instruction, a few ill-digested rules of grammar were previously inculcated. In those times, only such as were endowed with an extraordinary memory, or had abundance of leisure which they were inclined to employ in a long, tedious, and laborious task, could acquire either ancient or modern languages. But towards the middle of the last century *exercises for writing* were generally introduced, and they soon proved to be a most important means for facilitating the acquisition of languages.

The advantages arising from this improvement were indeed great. Before its introduction, the true sense of grammatical rules could only be attained by numerous previous mistakes. However well they were conceived and expressed, the words used in laying them down could not convey the exact meaning to the mind of the young learner, without some very conspicuous instances of the application of the rules. Such instances, however, were not brought forward when the rules were inculcated; they were reserved for the reading of the authors themselves, and then they were intermingled with so many other rules, that it required more ingenuity and sagacity than falls to the common lot of men, to disentangle at once the confusion, and to arrive at clear conceptions. This confusion was greatly increased by the necessity of acquiring most of the grammatical rules and forms, before an attempt to read an author could be made. For it is impossible to read a very few sentences of a book without being obliged to refer to at least two-thirds of the grammatical forms and rules; and hence arose the necessity of knowing them all before the reading of an author could be attempted with any

chance of success. Now whoever considers that every grammar is only an aggregate of a considerable number of very minute and unconnected facts, cannot be astonished that this kind of study produced, even in the clearest minds, such a confusion and uncertainty as could only be overcome by long-continued efforts of very intense study.

These disadvantages are, to a great extent, removed by the writing of exercises. The most important grammatical forms, and a few rules are selected, and the manner in which they are to be applied is not only shown in a few examples, but strongly impressed upon the memory by the operation of writing copious exercises. As soon as the selected part of the grammar is firmly rooted in the memory, another selection is made and treated in the same manner; and so on till the greater part of the grammar is thoroughly acquired. By this method a considerable degree of order has been introduced into the chaos formerly existing; and order, as is well known, is the great support of memory. At the same time the operation of writing down well-chosen sentences conveys better than any other means the true signification of words and phrases, and impresses them more strongly upon the memory.

It is doubtless a matter of regret, that, as the advantages arising from writing exercises are so great, the method should not be followed up to a much greater extent than is commonly done. The desire of so many teachers to exhibit the great progress made by their pupils in a short time, induces them to proceed with too much haste to the explanation of some difficult author, and to abandon too soon the more secure and solid way of writing exercises; which, were it pushed three or four

times as far as it is done at present, would doubtless amply repay the additional time and labour. But even with the present system, the practice of writing exercises has abridged the time formerly required for the attainment of a language probably by one-half; and what is thereby gained has properly been transferred to the study of natural philosophy, and other scientific pursuits.

This practice, if we are not mistaken, was first tried in the ancient languages, but as its advantages became palpable in a very short time, it was soon introduced likewise into the study of modern languages. Here too it was attended with the same advantages as far as regards the *reading of books;* but this not being the principal object in learning modern languages, it is evident that their acquisition has not been facilitated to the same extent as that of the ancient languages.

Those who set a just value on the knowledge of modern languages will probably regret with us that the study of these languages was not introduced before that of the ancient. It is certain that, in such an event, the teachers of the former would not for a moment have lost sight of their object. Not having before them an example to follow, they would have been compelled to find out their own way, and it cannot be questioned that they would have gone in quite a different track: after numerous abortive trials, they would doubtless have discovered a much shorter and a more efficient way of attaining their end.

We doubt not but some of the methods lately tried aimed at this object; and on that account they deserved the favour with which they were received by the public. But unfortunately they have not been able to maintain the high ground on which they were placed by public

approbation. The effect did not answer the expectations which were excited. Consequently these methods began to decline in the estimation of the public, and to be treated with neglect; and if we except a few feeble traces which still remain, we may be justified in asserting, that these new methods are almost buried in oblivion. Their downfall has of course been attended by a return to former systems.

But perhaps the modern innovations in this matter have gone too far. If, instead of abandoning entirely the old road, they had taken the pains of examining it thoroughly, they might probably have discovered, that partly by improving the road itself, and partly by straightening its windings, and cutting off some roundabouts, it was possible to bring the old road into a condition not less convenient for the traveller than favourable to his quick progress. Such an attempt at least deserves to be tried.

Experience itself must show us the way in this matter. We have only to observe the different success of different methods. Those teachers of modern languages who, from an over-anxiety to bring their pupils as soon as possible to the reading of books, or from some other motive, do not previously subject them to a course of written exercises, never succeed in imparting to them the ability of speaking the language. But it is not so with those who choose the other method. They sometimes succeed, and sometimes they do not succeed. They succeed whenever their pupils are endowed with a quick and tenacious memory, and a certain boldness of mind. But as by far the greater number of their pupils do not possess both qualities in the requisite degree, the number of those who attain such a know-

ledge as enables them to speak the language with ease, is far from comprehending the moiety of those who attempt it. How great is the number of persons who frankly declare, that they have submitted to a considerable sacrifice of time and labour for the purpose of acquiring the ability to speak a modern language, without succeeding in their design! They do not impute this failure to the want of skill in the teacher, but to the natural defects of their own memory. They are persuaded that they are well acquainted with the grammatical part of the language; but when they try to speak, they cannot find the words and expressions necessary to give utterance to their conceptions.

This fact clearly indicates where we must look for the principal fault in our method of teaching modern languages. Teachers think they have completely done their duty, if they succeed in imparting to their pupils the grammatical part of the language; and they leave the acquisition of the words, expressions, and phrases entirely to the industry of the students themselves, and to the use of a dictionary.

Now, if we consider the simplicity of the grammatical forms, and the comparatively small number of syntactical rules in all modern languages, and afterwards compare them with the multitude of words, expressions, and phrases requisite to be known before a student is able to maintain a conversation on subjects of daily occurrence, we must allow that the assistance given to the pupil by the teacher is only directed to the more easy part of the task, and that it is by far too scanty for the attainment of the object, if not seconded by extraordinary talents.

Let us see what ways have been proposed and tried

for the attainment of this most difficult part of all languages. It was once thought that the learning by heart of a vocabulary might answer the purpose. But, in our opinion, few of those who have tried the experiment have derived any considerable advantage from this most tedious task. The words and phrases are forgotten as soon as they are learned. From whatever cause it may proceed, such is the general fact; and consequently this method, if we are not greatly mistaken, is almost entirely exploded.

The knowledge of this part of the languages is much more advanced by an attentive reading of books, and doubtless it is for this reason that the teachers of modern languages employ so much time in this task. To this mode also we think it is chiefly owing that a few of their pupils acquire the ability of speaking a language. But it is insufficient for the greater number of students. That may easily be shown by referring to the ancient languages. All those who have studied them with great application know very well that even when they have advanced so far in their knowledge as to be able to translate correctly any Greek or Latin author without previous preparation, still they are unable readily to find in their memory the corresponding Greek or Latin words, whenever they try to translate the most common English expressions. Experience shows us that the case is not greatly different with those who try to acquire the ability of speaking modern languages by the reading of books.

Many teachers are doubtless sensible of the insufficiency of their methods; and in order to amend them, they try to compel their pupils to repeated efforts of speaking, by entering into some conversation with

them, but generally to no purpose: for they find two difficulties which cannot easily be overcome. The pupil is commonly too little acquainted with the expressions and phrases requisite to enable a person to maintain a conversation, and consequently it cannot be extended beyond a few commonplace or complimentary sentences; and here it must be dropped. But even if his stock of knowledge is such as would carry him through a conversation, it soon comes to a stop for want of a subject. For the circles of ideas in which both the pupil and the teacher move is so different, that it is very difficult, and in many cases quite impossible, to find out subjects of conversation equally interesting to both. Thus the honest teacher, who wishes to do his duty, after many fruitless attempts, is obliged to return to the reading of books.

Within the last few years a new method has been tried. *Dialogues* have been published. But it does not seem that this improvement has produced any considerable effect. To learn them by heart is indeed not quite so bad as to learn a vocabulary, but it is not much better. We think, however, that such dialogues may be of some service to a traveller, who has already made some progress in speaking a language, and who wishes to acquaint himself occasionally with the most common expressions on some subjects of daily occurrence. But a beginner will probably be little benefited by them.

So scanty and insufficient are the modes proposed and tried for the attainment of the most difficult part of languages, that it is evident that as long as a more efficient mode for this purpose is not devised, the acquisition of a modern language for the purpose of

speaking will always remain an enterprise in which the odds are against a successful issue for the greater number of students.

The usual mode of teaching the grammatical part of languages is much less exceptionable when it is combined with the writing of exercises. But here too we think a considerable improvement might be effected by a better arrangement of the different parts of grammar for the purpose of teaching. We do not intend to blame the order in which grammars are commonly arranged. On the contrary, we are convinced that the established arrangement is the only admissible one. But we contend, that in teaching a language the grammar is not to be imparted in that order. In teaching, the etymological and syntactical parts of the language are not to be separated. They are to be so selected and combined, that the memory of the student may find a very useful support in their union. Thus every part of grammar will be more distinctly marked, and all confusion avoided.

We leave it to the reader to judge how far all these considerations have been attended to in contriving the following improved method of teaching modern languages. It can only be called an improved method as far as regards the manner in which the grammatical knowledge is imparted; with respect to the mode adopted for impressing upon the memory the knowledge of the words and phrases, it lays claim to some novelty.

According to this method the whole plan of instruction is to be divided into three courses.

In the *first course* the formation of simple sentences is to be taught—for sentences constitute as it were,

the frame-work of each language, and phrases serve only to fill up the interstices of the frame-work. By examining a certain number of the most simple sentences, it is not difficult to make out which part of the etymology, as well as of the syntax, concur of necessity in their formation. In every language, we think the substantive and the verb are the only parts of speech which are indispensable to the formation of simple sentences, and for that reason the first efforts of the teacher are to be directed to the teaching of them, and to them they are likewise to be limited during this course. After the selection of all the grammatical parts intended for the first instruction has been carefully made, the materials are to be arranged according to the peculiarities of every language. In some the substantive, in others the verb, ought to have the precedence. In general, however, the verb may be made the leading object throughout the whole course, and whatever else is to be comprehended under it may conveniently be connected with one or the other set of verbs. After this arrangement, copious exercises for writing on every part of the grammatical instruction are to be provided. In these exercises numerous adverbs and some phrases of very common occurrence are to be inserted. This is done for the purpose of enabling the student to comprehend in a short time a great number of simple sentences used in conversation. For the same purpose about half of the irregular verbs are to be added to this course, and in the selection of them preference is to be given to those which occur most frequently.

After the exercises have been translated into the foreign language by the student, and corrected by the teacher, the work of the latter is indeed terminated,

but not that of the former. He is to be admonished by the teacher to read over the exercises from three to six times, according to the strength of his memory, and that aloud. Here it may be proper to observe, that the advantages of reading aloud what is completely understood have either not been duly appreciated, or incomprehensibly neglected, by the teachers of modern languages. As a language, when spoken, is not a science, but rather an art, the organs by which it is exercised must previously acquire an habitual skill by a long course of practice. These organs are the ear and the tongue. By reading aloud what is perfectly understood, the necessary practice is obtained. The advantages arising from this practice are greater than can easily be imagined. The translating of a set of exercises we will suppose to have required an hour; and according to the average rate of memory very little of the instruction contained in them will have been impressed upon the memory. The reading them over aloud six times does not require more than a quarter of an hour; but even students with a very bad memory will acquire by this practice the greater part of what is contained in them.

We may now reasonably suppose the student to be acquainted, not only with the manner in which simple sentences are formed, but also with a considerable number of the most current words and expressions, and with a small number of phrases; and though he does not yet know the rules on which the formation of these phrases rests, he has acquired by practice a certain facility of using them. This knowledge, if duly managed by the teacher, will in a short time enable the pupil to understand what is spoken; and to reach that

point the teacher ought now to direct all his efforts. No practice perhaps is more efficient for this purpose than that of narrating short tales. But this operation requires some particular skill in the teacher. He must adapt his narration to the knowledge of the pupil; and as the pupil is only acquainted with the formation of simple sentences, he must avoid compound ones, and substitute for them such as can easily be comprehended by the student. This can be done in every instance without impairing in the least the value of the narration itself. An instance will show how easily this may be managed.

The following tale is taken from a pfinted German book:—

'Zwei Bauern wurden von ihrem Dorfe abgefertigt, um in eine grosse Stadt zu gehen und dort einen gechickten Mahler zu suchen, der das Gemählde des Hochaltars in ihrer Kirche verfertigen könnte, welches das Märthyrthum des heiligen Sebastian vorstellen sollte. Der Mahler, an den sie sich wandten, fragte sie, ob die Einwohner den Heiligen lebend oder todt vorgestellt haben wollten. Diese unerwartete Frage brachte sie sehr in Verwirrung. Sie berathschlagten lange darüber. Endlich sagte einer von ihnen zum Mahler: das sicherste ist immer ihn lebendig vorzustellen; denn, wenn man ihn todt haben will, kann man ihn dann immer noch todt schlagen.'

This tale may be narrated in short and simple sentences as follows:—

'In einem Dorfe hatte man eine neue Kirche erbauet. Sie war dem heiligen Sebastian geweihet. Die Einwohner des Dorfes wollten ein Gemählde des Heiligen in ihrer Kirche haben. In der Absicht schickten sie zwei

Bauern nach der Stadt. Diese waren beauftragt einen geschickten Mahler aufzusuchen, und über den Preiss des Gemähldes mit ihm sich zu einigen. Sie fanden bald einen Mahler und fragten nach dem Preise. Den Preiss kann ich nicht sogleich bestimmen, sagte der Mahler. Ich muss erst einige umstände wissen. Erstens soll ich den Heiligen todt oder lebendig mahlen. Diese Frage hatten die Bauern nicht erwartet. Sie waren etwas betroffen und berathschlagten lange darüber. Endlich sagte einer von inhen zum Mahler: mahlen Sie ihn doch nur lebendig; denn wenn unsere Nachbarn ihn todt haben wollen, können sie ihn immer noch todt schlagen.'

It is indeed not to be supposed that the student will directly understand such tales, even when narrated in short sentences. But the teacher may, in the beginning, facilitate the understanding of them by narrating them previously in English, and likewise in short sentences, and by then repeating them, as closely as possible to the English, in the language which he teaches. After adhering to this practice in the narration of ten or twelve such tales, the teacher will find that the pupil has acquired such an ability, that he may dispense with the previous narration in English.

That from this practice of narrating tales the greatest possible instruction may be derived, the teacher has to repeat them a second time in nearly the same words, and whilst he is doing so he ought to write down all those words, expressions, and phrases, with which the pupil is not yet acquainted. Then he places this paper before the pupil, and causes him to repeat the tale in the language which he studies, and at least twice. The pupil ought then to write it down after the lesson, the teacher

to correct it, and to admonish the pupil to read it over aloud from three to six times.

This practice of narrating tales is to be continued till the student has enlarged his stock of words, expressions, and phrases, so as to be enabled to speak, which will take place in a much shorter time than may be supposed. As soon as this point is obtained, the first course of instruction may be considered as terminated.

The student will of course be very far from speaking correctly. He is still unacquainted with by far the greater part of grammatical knowledge; and till he has acquired that, his instruction is incomplete. To accomplish this is the object of the *second course*.

Here, too, the most advantageous plan will be, first, to complete his knowledge of the formation of sentences. The manner in which the subordinate sentences and the periods are formed, together with the use of the subjunctive, are to be imparted before the formation of phrases by means of prepositions, and the regimen of the verbs and adjectives can be communicated. These are things which will occupy the student for a length of time. But when the teacher knows the art of uniting the etymological forms with the syntactical rules, and of arranging matter in such a way that the following instruction is duly supported by the preceding, he will save the pupil much labour and much time.

The practice of narrating tales is still to be continued. For the new instruction ought to be impressed as strongly upon the memory as that imparted in the first course; it must even be applied with greater care, because of its more minute nature. Besides, the narration of tales gives the teacher frequent opportunities of observing those parts of grammatical knowledge in

which the pupil is not well grounded, and then he may remedy this defect by a few additional exercises. As for the mode of narrating itself, it is evident that it ought now to be changed. The use of short sentences is to be discontinued, and longer ones are to be substituted in their place. The teacher will do well to give them the average length which such sentences have in the works of the classic authors of the language that he teaches.

The farther the student advances in this second course of instruction the more he finds himself enabled to speak and write with fluency and correctness; and as soon as he arrives at the termination, he may be considered as having acquired the language. For this reason most teachers think that their task has then been brought to a completion. But we are convinced that nobody can be considered to be well versed in a language when he is not able to express his own conceptions in such forms and connexions as will adapt them to his own manner of thought and reasoning. Some persons connect their single thoughts in a very simple and loose manner; others are not content till they express, by the arrangement of their conceptions, the different relations and bearings in which they appear to their minds. Such differences in writing must necessarily influence their compositions in foreign languages; and an attentive teacher will find that some exercises are requisite to enable the pupils to follow the character of their own minds with ease and without embarrassment. These exercises form *the third course* of instruction.

Here of course the activity of the teacher must be very limited. He has only to observe the decided propensities of the mind of each pupil, and, if asked, to

point out some suitable subjects for composition. But he must proceed in this matter with great precaution, else he is in danger of pointing out the wrong way, and of increasing the labour of the student. In most cases he will do best to leave the choice of the subject entirely to the pupil. But as the facilitating of the communication between different nations is the principal object for which foreign languages are learned, the teacher is bound to insist on the composition of letters, which ought to make a principal part of this course.

Such compositions are to be looked upon as the keystone by which the arch receives its completion. With them the whole course of instruction is terminated.

It will not have escaped the attentive reader that the translation of books does not enter into this plan of teaching modern languages. The reason of this omission he will probably have guessed. It rests on the supposition, that when a student has attained the power of speaking with fluency, and of expressing with ease and correctness his own conceptions, he can find no considerable difficulty in reading printed books, especially if he takes some pains in arranging his studies in such a manner as to begin with the more easy kind of compositions, and afterwards to proceed gradually to the more difficult. By reading simple tales, novels, and comedies, he prepares himself for the more complicated style of historical compositions, philosophy, and reasoning. In poetry he ought to begin with tales and fables, then to proceed to pastorals, epic compositions, and tragedies. Didactic and lyric poetry ought to occupy the last place in his studies.

The common practice of translating books with students we consider merely a waste of time and labour,

and it ought to be completely exploded in the teaching of modern languages.

Whatever may be the advantages arising from this improved method of teaching modern languages, it has one defect. It cannot be used in large classes. We do not think that it can be made use of in a class composed of more than ten students. But as it is well known that those students who try to acquire the knowledge of modern languages in numerous classes very rarely succeed in reading even a printed book without great difficulty, and still more rarely attain to speaking the language so as to be able to maintain a conversation, we do not think that the above-mentioned defect is a great one. We doubt not that every objection to a change in the composition of classes would be removed, if it were ascertained that by such a change the students would be sure to attain that end for which modern languages are studied, and that too with less expense of time and labour.

ON THE STUDY OF THE ITALIAN LANGUAGE AND LITERATURE.

By A. VIEUSSEUX, Esq.

(From the Quarterly Journal of Education, Nos. X. and XII.)

We had intended, in the following pages, to offer some suggestions on the subject of Italian instruction in this country, in the same manner which has been followed in former numbers of this Journal with regard to French and German;* but, considering that the study of Italian is limited to a smaller class, consisting principally of persons of literary attainments and of refined taste and pursuits, classical scholars, artists, and travellers of both sexes, we think it advisable to premise a short disquisition on the present state of the Italian language and literature, and to resolve several doubts and remove some misconceptions which may exist on the subject. One peculiarity of this language has been much adverted to, especially of late years, which at first sight might appear very discouraging to the foreign student:—it has been said that "Italian—the Italian of writers and grammarians,—is not the spoken language of Italy,"—that "it is a sort of learned or dead language." This matter requires a full explanation. It is true that the use of dialects prevails over three-fourths of Italy,—

* Numbers III. and VIII. of the Journal of Education.

that these dialects are many, and that they differ, more or less, from Italian, but generally in a much greater degree than the common speech in the various counties of England differs from grammatical English. These dialects are not merely confined to rustics; they are spoken in the towns as well as in the country districts,—they are, in fact, the language of childhood of all classes of persons:—they continue to be, throughout life, the familiar language of most people, and the exclusive one of the lower orders. These dialects are not corruptions of the Italian, but are languages cognate with the latter, if not anterior to it,—they are derived from the Latin dialects which were spoken in the provinces of Italy remoter from Rome. The familiar language of the various populations of Cisalpine Gaul, of the Veneti, and of the Ligurians, under the Roman empire, was not only not the same as that in which Cicero wrote, but must have differed, likewise, from the familiar language spoken at Rome and in Latium. Each province retained part of its original idiom, whatever it might be, mixed up with that of the conquerors, the latter disfigured of course by solecisms and vulgarisms of pronunciation as it was in Rome itself*. The influx of the northern tribes who overthrew the Roman empire effected the total corruption of the spoken Latin all over Italy;—articles and auxiliaries were introduced, terminations were altered or neglected,—in short, the whole appearance of the language was changed. The

* Plays were acted in Rome in Strabo's time in the Oscan language, which still remained at that day, though the national existence of the Osci or Volsci had been extinguished.—Strabo. Casaub., p. 233. The Etruscan language also was still in use in the time of the early Cæsars.

change was, of course, greatest wherever the invaders made the longest stay and formed a permanent settlement, as was the case in Lombardy. Various dialects resulted from these various combinations, which were known by the general name of *Roman*, *Romanic*, or *Romance* language, like those of southern France.

The dialects spoken in central Italy retained a greater affinity to one another, as well as to their Latin parent. If we look at the old chronicles of the thirteenth century, written in humble, familiar style, whether at Naples, Rome, Bologna, Rimini, or Tuscany, we see a great similarity in the etymology and syntax in all. The familiar language of Tuscany, however, seems to have attained, sooner than those of its neighbours, a high degree of polish; probably it had never been so corrupt as the rest, owing to the local position of Tuscany, which prevented its being permanently occupied or colonized by the northern tribes, and also from the early independence of the Tuscan cities, their extensive trade, their wealth and civilization. In other parts of Italy, the few men of education and learning used also a language more refined than the generality of the people; and thus the early versifiers, including princes and courtiers, Frederic II. and his chancellor Pietro delle Vigne at Naples, Guido Guinicelli and Fra Guidotto of Bologna, Guido delle Colonne, a Sicilian; Can della Scala at Verona; Guido da Polenta, Prince of Ravenna, wrote in a language little different from that of the Tuscan poets and writers of the same age. But Tuscany had this advantage over the rest, that its familiar spoken language was more generally polished, so as to resemble the poetical and select language of the other Italians. And this superiority was carried still

farther in the following or fourteenth century, by the authority and example of a host of Tuscan writers, such as Dante, Dino Compagni, Cino da Pistoja, Petrarch, Boccaccio, Sacchetti, Villani, Passavanti, Pandolfini, who at once stamped the *vulgar language*, as it was then called, with the mark of Tuscan spirit and idiom.

While the oral Tuscan was thus becoming more closely connected with the written language, that of the other parts of Italy remained either stationary, as was the case at Naples, or degenerated still further, as at Bologna, and other parts of northern Italy. The people of central Italy, however, continued to understand one another; and the spoken dialects of Tuscany, Umbria, Rome, and even of part of Campania and of the Abruzzi, never varied so much from each other as those north of the Apennines. And as civilization and information spread, all the educated people of central Italy came to speak the grammatical Italian as their native language the vulgarisms of pronunciation remaining confined more and more to the illiterate, who also in some degree improved their language from the example of their betters; and thus, in Tuscany and the western Roman states, one common language is now spoken, intelligible to all the inhabitants. From the gulf of La Spezia to Terracina, nay, as far south as the Liris, and to the north as far as the central ridge of the Apennines, we have found one common language spoken and understood by all, though varying in particular districts, especially among the rural populations, by shades of pronunciation and accent, and by idioms, as is the case with the language of every country. This language is the oral Italian, bearing the same analogy to the Italian we read in the works of authors as the oral English

spoken in the various towns of England bears to the written English. The spoken Italian extends into the Abruzzi, especially in the province of Aquila and near the lake of Celano; it is also the language of the towns in the marches of Ancona, Macerata, and Fermo, as far as the Adriatic. But the rural population of these latter districts speak a sort of dialect.

Beyond the boundaries we have mentioned, north of the Apennines of Tuscany, the oral language of all classes becomes quite unintelligible to a native of central Italy, who is not always able to make himself understood, especially by the country people. The principal dialects are those of Piedmont, Genoa, Milan, Brescia, Mantua, Venice, Friuli, Ferrara, Modena, Bologna, and Romagna. Each of these states has a dialect unintelligible to the natives of most of the others, and each dialect is, in fact, a separate language, varying as to the pronunciation of town and country people, educated and uneducated, like every other language in Europe. Thus the people of Padua and Verona do not speak always exactly like those of Venice, although they all speak a common dialect, the Venetian; they all understand each other; while the people of Bergamo, Brescia, and Mantua do not understand Venetian, nor does a Venetian understand them, when each speaks his respective dialect. Most of the dialects have their own grammar and dictionary, and all of them can boast of writers, chiefly poets, many of whom excel, especially in humorous composition. At Venice, until the fall of the republic, the Venetian dialect was the language of the senate, of the bar, of the pulpit, of business of every sort. At Turin, Piedmontese was spoken by the late king Victor Emmanuel in preference to Italian or French,

which latter was then the court language. Popular plays are written and performed at Milan, Turin, and Venice, in the respective dialects, and popular preachers resort to the dialects, especially in addressing a rural audience. The same may be said of southern Italy, where the dialects of Naples, Puglia, Calabria, and Sicily prevail—with this difference however, that it is somewhat easier for a person acquainted with grammatical Italian to understand Neapolitan than Piedmontese or Milanese, because, as we have observed, the Neapolitan dialect bore originally a greater analogy to the Roman and Tuscan, and the other dialects of central Italy; and it now even bears, in point of etymology, a closer affinity to Latin than the written Italian or Tuscan. Neapolitan was the language of government under the Aragonese dynasty, and Ferdinand, the late king of Naples, talked broad Neapolitan.

After all we have said, we shall perhaps be asked, how can the written Italian of Dante, Ariosto, and Tasso be called the language of Italy? We will explain. Because it is everywhere the written language of the country, the exclusive language of epistolary correspondence, that of all refined society; it is *now*, without exception, the language of every Italian government, the language of administration, of all public acts, of the schools, the colleges, the pulpit, the bar, and of the stage, with the exception of popular farces, which are in some particular dialect. All educated men speak Italian, they learn it from their parents and teachers; all who are not totally illiterate understand it, at least for common purposes; all who can read and write, read and write Italian, for this is the only language of public and private instruction. There is, therefore, one com-

mon language for social intercourse from one end of the peninsula to the other, and he who is acquainted with it can make himself understood, at least by the people of every town, although he will not be able to understand them when speaking among themselves in their own dialect.

We have said that all educated Italians, from whatever part of the peninsula, acknowledge one common language, not only written but oral. But they do not all speak it with equal fluency or correctness. To those who are natives of the *dialect* states, Italian is not the language of the nursery; it is not the language of their youthful recreations; it is to them the language of books and teachers, not that of friends or familiars, not the language of humour, passion, or convivial mirth, nor of every-day life*. It therefore happens that even in after years, when they have occasion for familiar phrases, or technical words, they are apt either to substitute dialective phrases, or to misapply the words of the Italian. They are in a predicament somewhat similar to that of many a native of Munster or Connaught when speaking English, and the consequences are often the same—misapplication of words and confusion of sentences. We will give two instances of this as related by Grassi, a Piedmontese, in his excellent though short

* 'I was born,' says the Marquis Lucchesini, in a letter he published in the Florence Antologia, 'at Lucca, my father being from Modena, and my mother a native of Lucca. At five years of age I was taken to Modena, when, two years after, I entered college. The superiors and teachers, my brother students, the servants, all spoke Modenese, and I, with my brothers alone, spoke always Tuscan. The same thing has happened to all Tuscans who have been educated in any of the colleges of Lombardy.' Here Lucchesini alludes of course to the *familiar* language spoken by the above persons in the college.

essay on synonymes. As he was walking one day absorbed in thought through a street of Florence, he struck his foot against a stone step that projected out in front of a shop, and in the moment of pain he exclaimed, *Maledetto gradino!*—'Confound the step!' The shopman, who was looking out, with his elbows resting on the gate of his shop, cried out, 'You might better have said *scalino*, as this is not a church.' In fact, *gradino*, a diminutive of the Latin *gradus*, is a nobler word, and is used to mean steps leading to an altar or church, or other noble structure, while *scalino* comes from *scala*, and is used for common stairs. Had the shopman, however, been a philologist, he might have drawn a still nicer distinction by calling the step before his door *scaglione*. Another time, as Grassi was travelling from Florence to Siena, the coach stopped at the village of Barberino, and, on alighting, he was met by a countrywoman with a child in her arms. The child, being alarmed at the appearance of a stranger, hid its face in its mother's bosom; Grassi said he was sorry to have caused the child *paura*, 'fright;' but the mother replied immediately, *Non è paura, ma timore;* the difference between the two being this, that *paura* is caused by something frightful, and is a feeling of the senses, whilst *timore* is the offspring of the mind, and may be produced by noble causes, such as *timore di Dio*, 'the fear of God.' Now these distinctions, and a thousand more, such as *fronda* and *foglia*, *uscio* and *porta*, *superbia* and *alterezza*, &c., are felt in Tuscany by every one, from the universal habit of speaking with propriety, but, in the rest of Italy, are only understood by men of reading and philological research. No one can fully appreciate the elegance, the precision of

which the Italian language is susceptible, who has never conversed with Tuscans. In this the common people at Rome, although they have no other language than Italian, do not come near the Tuscans. A Roman would have said, correctly, *scalino* in the first instance; but, in nine cases out of ten, he would have said *paur a*, as Grassi did in the second.

It has been said that Italian *cannot be spoken correctly and quickly at the same time*; that the roundness of its periods makes it unfit for the expression of rapid feelings; that it is stiff and stilted; but we apprehend that this does not apply to the natives of Tuscany. Alfieri, a Piedmontese, in the history of his own life, pays a tribute to the superiority of the oral language of Tuscany. "We arrived at Florence, from whence we have not stirred since, and where I have found the real store-house of our language. I applied strenuously to the acquirement of the spoken idiom, and by conversing daily with Florentines, I succeeded pretty well. Then I began *to think almost exclusively* in this most rich and elegant language, which is the first indispensable condition for writing it well."

Pronunciation is another qualification in which there is much disparity between the various countries of Italy. It is not an easy thing for a native of north Italy, or of Naples, to get rid of his peculiar accent or brogue, by which he is easily distinguishable to a practised ear. The peculiarities of pronunciation are many and various in the different states. The Milanese, Genoese, Piedmontese, have in their dialects the sound of the French *u*, which Alfieri so bitterly complains of; they have also that of the French dipthong *eu*, or German *ö*, as well as the French nasals *en*, *in*, &c. These

sounds range all over Cisalpine Gaul from the Alps to the Apennines, and as far as the Rubicon, and certainly nothing can be more inconsistent with Italian euphony. The natives of the above-mentioned countries retain, in speaking Italian, something of these foreign sounds, especially the pronunciation of the *u*, of which few completely divest themselves. The Venetians are free from Gallic sounds. The dialect of the Veneti, even in ancient times, was of a different origin from that of the Gaulish tribes settled in the great plains of the Po. The Venetian dialect is the softest in Italy. The Piedmontese is softer than the Milanese or Genoese, and when spoken by men of education, and especially by females, it is even pleasing to the ear. Brescia, Bergamo, and Mantua, have the roughest dialects of Italy, with the exception of Bologna, which can boast of the most uncouth of all. In the south, the Neapolitan is pronounced broad, and full-mouthed; it delights in liquids, and dactyles, and instead of cutting words short, like the north Italian dialects, it often adds a syllable to the termination. It has no French sounds, but it generally makes the *e* and *o* broad, and softens the sound of the *z*. Neapolitan is, upon the whole, a jovial, humorous language, and not inharmonious to the ear. It is extremely rich, especially in diminutives and augmentatives, as well as in invective and abusive expressions. The Calabrian and Sicilian are pronounced close, and abound in obtuse sounds; they change the *e* into an Italian *i*, and the *o* into an Italian *u*, thus resembling in their pronunciation the Lingua Franca spoken by Turks or Moors, who adopt the same vowel sounds, especially the *u*. Yet the Sicilian dialect is remarkably expressive, and perhaps the most poetical of all.

Although the educated natives of all these various countries do not of course pronounce Italian as they would their own dialects, yet they retain traces of dialect pronunciation from early habit, as we have already observed. As regards the ear, the northern or Lombard pronunciation is the most unpleasant; but, in other respects, all faults of pronunciation are equally disagreeable. The necessity of distinguishing between the two sounds of the *e* and *o*, as well as of the *s* and the *z*, may be better understood by looking at the numerous duplicate words, spelt exactly the same, though having totally different meanings, which can be distinguished by the pronunciation alone, for instance, *tèma*, subject, from *tema*, fear; *lègge*, he reads, from *legge*, law; *venti*, twenty, from *vènti*, winds; *mèsse*, harvest, *messe*, masses; *fòro*, the bar, and *foro*, a hole; *torta*, a pie, from *tòrta*, twisted; *ròcca*, a citadel, and *rocca*, a distaff; *torre*, a tower, *tòrre*, take away; *volto*, face, and *vòlto*, turned. Likewise *ròsa*, with soft *s*, means a *rose*, and *rosa*, with a smart sound, means *gnawed*; *mèzzo*, with the *z* pronounced soft, means *middle*, *half*, and *mezzo*, with a rough sound, means *decayed*, *rotten*. Partial lists of such words are to be found in most grammars, and some of the Italian dictionaries have lately introduced the practice of distinguishing the two sounds by particular marks, which, however, are never used by Italian writers.

All the northern dialects abound in contractions, but those of Lombardy and Bologna most of all: their words, though analogous to Italian, and derived from the same Latin parent, cannot be recognised when spoken, and not always easily when printed. But we must now return to Italian, and to its own domain, central

Italy. Here the pronunciation varies chiefly between Tuscany and Rome, besides many shades of provincial accent in the various districts of both states. We cannot award to the Tuscans, and particularly the Florentines, the same unqualified approbation with regard to their pronunciation, as we have expressed concerning the propriety of their words and the elegance of their sentences. Their guttural aspiration of the syllables *ca, co, cu, che, chi*, is certainly uncongenial to the general euphony of Italian; it is grating to the ear, and makes the Tuscan sound like Spanish. It is true that these gutturals are sounded harsher by the lower orders; that they are more marked at Florence than at Siena or Cortona, and that Tuscans who have travelled soften them considerably.

Lingua Toscana in bocca Romana is an old saying, and we believe it correct, if by it is meant the purity of Tuscan phraseology with the accent of a well-educated Roman, especially if he has resided some time in Tuscany. These two qualifications, we conceive, would bring the spoken Italian near to perfection. The gentlemen of Siena, and of the other parts of Tuscany bordering on the Roman states, as we think, come near the mark. As for the vulgar Roman pronunciation, it is drawling and incorrect. The Romans employ many familiar words different from the Tuscans, whom they consider as too finical in their choice.

Before we quit this subject, we think it may not be unacceptable to some of our readers, who may feel curious about these matters, to see some specimens of the principal dialects as compared with the Italian. The first example is taken from versions of the Geru-

salemme of Tasso, in the Milanese, Neapolitan, and Calabrian dialects.

Here is the Italian of Tasso:—

Colei Sofronia, Olindo egli s' appella,
D'una cittade entrambi e d'una fede,
Ei che modesto è sì com' essa è bella,
Brama assai, poco spera e nulla chiede;
Nè sa scoprirsi, o non ardisce, ed ella
O lo sprezza, o nol vede, o non s' avvede.
Così finora il misero ha servito,
O non visto, o mal noto, o mal gradito.—Canto ii. st. 16.

MILANESE VERSION.

Lee l'è Sofronia, e Olind l'è el so moros,
Hin tucc duu d'ona legg e patriott;
Se lee l'è bella, lu l'è vergognos,
El vorav, ma nol volza, e pur l'è cott;
Ghe batt el cœur, ghe cas el fiaa e la vos,
E lee o el le spressa, o no la sa nagott.
Insci sto bacal l'ha sempre servii,
Cognossuu o poech o minga, o mal gradii.

NEAPOLITAN.

Zofronia e Olinno ha nome sta chioppella,
Tutte duie Crestiane, edd' uno luoco;
Isso, che scornus' è quant' essa è bella,
Troppo vo, poco spera, e mmale dà ffuoco;
Nè nne sa scire, o nò n' ha core; e cchella
O nò lo vede, o sprezza, o ne sa poca.
Accossì sempe 'mpierdeto ha sservuto,
O nò ntiso, o sprezzato, o nò mmeduto.

CALABRIAN.

Illa Sufruonia, Ulinnu illu se chiama
De na stiessa cridenza e nu paise,
Illu è timitu assai, quantu illa ha fama
De bella, illu ha gran caudu e mai se ntise,
Ca nu sadi, o nu vole la maddama,
O nu sente, o nu vide, o u ne curtise:
E cussì tantu tiempu ha consumatu
O non vistu, o non ntisu, o rinuzzatu.

The following is a stanza in the Piedmontese dialect from a satirical poem of Calvo:—

E bin, mei cari fieui cosa ne dive?
I'ai fave sghignassé per doi quattrin;
Ma 'l me proget a l'era d' divèrtive
Pr feve dismentie i vostri sagrin.
A l'è pr voi-ait souì ch' i m' buto a scrive;
I parlo con j amis ch' a m' veulo bin,
E peuì se'l popolas veul criticheme
Ch' a dia lò ch'a j pias, veui nen crussieme.

Which, translated literally into Italian, would run thus:—

E ben, miei cari figliuoli, cosa ne dite? Vi ho fatto sghignazzare per due quattrini; ma il mio intento era di divertirvi per farvi dimenticare i vostri dispiaceri. L'è per voi altri soli ch' io mi dò a scrivere: Io parlo con amici che mi vogliono bene, e poi se il volgo mi vuol criticare, che dica pur ciò che gli piace, io non vò adirarmi.

The next is part of an idyll of Meli, the modern Theocritus, written originally in the Sicilian dialect, and afterwards translated into both Italian and Venetian:—

SICILIAN.	ITALIAN.
Dimmi, dimmi, Apuzza nica:	Dimmi, dimmi, Apetta cara
Unni vai cussì matinu?	Ove vai sì di mattino?
Non c'è cima chi arrussisca	Tutto è notte e non rischiara
Di lu munti a nui vicinu.	Anco il monte a noi vicino.
Trema ancora, ancora luci	Trema ancora, ancor biancheggia
La ruggiada ntra li prati	La rugiada in grembo ai prati:
Duna accura nun ti arruci	Deh! che molli io non ti veggia
L' ali d'oru dilicati!¦	D' oro i vanni delicati.
. . . . .	. . . . .
Cerchi meli? E siddu è chissu,	Cerchi il mel? Se hai tal desio,
Chiudi l' ali; e un ti straccari;	Chiudi l' ale e non stancarti!
Ti lu 'nzignu un locu fissu	Certo un loco so ben io
Unni ai sempri chi sucari.	Ove avrai da sazïarti.
. . . . .	. . . . .

VENETIAN.

Dime Aveta bonoriva,
Perche avanzistu l'Aurora?
No gh'è ancora anema viva,
No rossiza i monti ancora;
Trema e luse in ogni parte
Su l'erbete ancora intate
La rosada; ah! no bagnarte
L'ale d' oro delicate.
. . . . . .
Vustu miel? cerchistu questo?
Sera l'ale e no stracarte,
Mi te insegno un logo presto
Da suzzarlo e sbabazzarte.

Here, but more especially in the remaining part of he idyll, the Sicilian text bears the palm for graceful-

ness over the Italian version. The following are specimens of two of the roughest dialects of Italy. The first is from a burlesque version in the language of Bergamo of Ovid's description of Chaos in his Metamorphoses:—

I nagg ch' agh foss ol mar, la terra, e 'l cil,
Nol ghera indrigg, gne invers della natura
Ma la pariva proprio un gran porcil,
Perque tugg i elemegg iera sottsura;
Ol dur col tener, e' l gros col sutil
Pavan tugg quang ensem una mestura.
L' humid col sech, col fred urtava ol cald
Ol gref contro al lezer ga stava sald.

The next is a specimen of Bolognese prose:

L' e sempr stà un natural di Bulgnis, ch' quand' i vedn', o ch' i' sentn qua s' vuja cosa, a j vin subit vuja d'farla ancor' a lor; e ch al si vera, al s' è vist in temp d'la guerra, ch' tutt in dvintà sulda', e con piar geni a una nazion, o all' altra, za ch' a n' s' pseva combattr' con gli arm, a s' cumbatteva con 'l chiacr, e del volt anc d' rtopp, ch' s' 'a n i fuss stà al prigul d'fars mal, a s' srè vgnù spess' al brutt del sacc.

Which means, that 'it is the nature of the people of Bologna, that when they see or hear any thing being done, they immediately wish to do the same; and that this is the truth has been seen in the time of the war, when every one fancied himself a soldier, and took part either for one or the other of the two belligerents; and as they could not fight with arms, they fought with words, and at times too much even with these, for if it had not been for the danger of hurting each other, often they would have come to a summary decision.'

After examining attentively all the various Italian dialects we have enumerated, not merely in their written poetry, which, being the composition of scholars, approaches nearer the polished Italian, but in their familiar prose and their conversational idiom, it can be

confidently asserted, that a corrupt Latin is the basis, the main substance of them all,—a Latin already corrupt under the Romans, and afterwards still more disfigured chiefly in the spelling and pronunciation of words by the northern invaders who partly colonized Italy, but who, however, do not seem to have introduced any very considerable stock of new words. The process by which the Latin of the lower ages became Romance language can be clearly traced*, as well as the subsequent step by which the Romance was transformed into Italian. None of the dialects appear to have a foreign basis, on which Latin or Roman may have been afterwards grafted, although we should think that the aboriginal languages, especially in northern Italy, gave, in the time of the Romans, a colour to the Latin which superseded them, and some of which colour has probably been retained in the modern dialects. The difference between the dialects and the common Italian can in no wise be compared to that existing between the Welsh or Gaelic and the English; it is more like that between the lowland Scotch and the latter. There is but one dialect spoken in Italy which is evidently of foreign origin; namely, that of the district of the *Sette Communi*, or *Sieben Perghe*, near Vicenza, in the Venetian state. This small population is evidently a remnant of some one of the many northern tribes that have invaded Italy at various epochs. Some antiquarians, and Maffei and Lanzi among the rest, have fancied that they are the descendants of the Cimbri; others suppose their settlement in the country to have been subsequent to the fall of the empire. Their language is, however, of Teutonic ori-

* See No. III. of the Journal of Education, p. 38

gin, and here is a specimen of it, which we transcribe out of Mr. Rose's 'Letters from the North of Italy.' It is part of their catechism, printed at Padua in 1813:—

Moaster.	Saitar iart Christan ?
Scular.	Ia: ich pinz az Gott vorgheltz.
M.	Bas ist ein Christan ?
S.	Ar ist dear, da ist gutofet, un clobet, un professart baz de hatüz galiarnet Jesu Christo.

Here is a language essentially distinct in its etymology and form from the Italian dialects, as well as from Latin; a language which, at the bottom, is German. Compare it with any of the most uncouth dialects of Italy, those of Bergamo, Brescia, or Friuli, &c., and the difference is striking. Nay, compare with it the *Romantsch*, which is spoken in the Engadina and other valleys of the Grisons, north of the Alps, and the same difference between the two is evident, the *Romantsch* being, as its name imports, a Romance language, as well as the dialects of Italy. Here is a specimen from the Romantsch catechism. *Sensa dubt ei il Christgian la pli nobla et la pli perfetgia denter tuttas creatiras, ch'è en vegnidas ord il Tutt-pussent maun de Diu.*

Having examined the state of the oral languages of Italy, we turn to the written language, first cultivated and refined by the Tuscan writers of the fourteenth century, but neglected in the fifteenth, after the revival of classical studies. The Latin language resumed the ascendency among the learned, and the *vulgar* tongue was confined again to oral use. But its powers had been too clearly shown, and, in spite of Pomponius Lætus's advice, who dreamt of reviving the use of speaking in Latin,—a delusion akin to that of his contemporary Cola di Rienzo, who wanted to re-

establish the Roman senate and the people-king in the plenitude of their power,—the despised vulgar language soon came into fashion again in the time of Lorenzo de' Medici, who, with his friends Pulci and Poliziano, gave the example. But the cultivation of Italian was no longer confined to Tuscans. Bojardo composed his epic, and was followed by Ariosto, both natives of the Modenese territory. The age of Leo X. saw a constellation of men of genius from all parts of Italy. Rome became then the centre of Italian learning. Trissino, Berni, Bembo, Della Casa were attached to the Roman hierarchy. The courts of Ferrara, of Urbino, and of Mantua affected also to patronise genius. The first of these courts will be remembered in history as the residence of Ariosto and of Tasso. The sixteenth century was an age of sorrow to Florence, yet the expiring rays of her independence shone upon Machiavelli and Michelangelo. Afterwards, under Cosmo I. of the second house of Medici, the historians Guicciardini, Varchi, Segni, and Vasari sustained the reputation of Tuscany for letters. Bembo, a Venetian and a prelate of the Church of Rome, was the first who laid grammatical rules for the Italian language, which he called Tuscan in compliment to the great fathers of the fourteenth century. Castelvetro and Salviati entered into more minute disquisitions; the latter was the prime mover of the Academy of La Crusca, which formed itself at Florence for the object of defining the words of the language, and with this view consulted the best writers, and chiefly the Tuscan authors of the fourteenth century. The dictionary of the academy appeared for the first time at Venice in 1612, since which time four more editions have been

published with corrections and additions: the last was that of 1729-38, Florence, 6 vols. folio, with another volume folio of additions, or Giunta, published in 1751. A more compendious edition was published by Cesari at Verona in 1806, 6 vols. 4to.

The luxuriant growth of Italian literature in the sixteenth century did not, however, strike firm root in the soil: its productions consisted chiefly of poetry and works of erudition; and although several writers, such as Della Casa, Annibal Caro, Bembo, Bonfadio, Doni, wrote familiar letters and essays, and Bargagli, Bandello, Erizzo, Firenzuola, wrote entertaining tales, yet jthe language was generally too ambitious, or the subjects not sufficiently popular. Italian was not, except in Tuscany, the common language of every one; dialects were spoken over three-fourths of Italy, and Latin was every where the language of science and the schools; and at Rome, where the people spoke Italian, the court and hierarchy wrote in Latin. Hence the written language could not become national, and this was a serious evil, the consequences of which were felt in the sequel.

In the seventeenth century, an age of political degradation for the greater part of Italy, which was subject to the delegated power of Spanish viceroys, at a time when Spain itself was falling fast into decay, the written language and literature declined; the writers, both in prose and verse, were vitiated in their taste; they adopted a turgid style; and carried the abuse of metaphors to a most extravagant degree. Yet even that century was not without its luminaries. The poets Chiabrera, Guidi, Maggi, Tassoni, Filicaja, and Menzini: the philologists Redi and Salvini; the historians

Bentivoglio and Davila; the great Galileo;—all these, and others whom we could mention, wrote in good language, and they are accordingly numbered among the authorities by the Crusca, as are likewise the famous Sarpi and his antagonist Cardinal Pallavicino, with the Jesuits Segneri and Bartoli, although inferior in their style, and somewhat vitiated by the prevailing bad taste of that age. In short, we ought not to adopt blindly the hackneyed epithet of *Seicentisti*, as a defamatory appellation applied to the writers of the seventeenth century in general. The school of Marini was bad enough, but it did not extend all over Italy, and it soon declined in its influence through its very absurdities.

In the eighteenth century, Italy was again restored to a sort of nationality; she had resident sovereigns, who effected useful reforms and encouraged learning, and letters and science felt the effects of the general revival. The writers of this age were investigators, philosophers, sound critics; and the names of Giannone, Vico, Genovesi, Filangieri, Beccaria, Baretti, Muratori, Maffei, Pietro Verri, Carli, Lanzi, &c., bear witness to the change. But the language, far from participating in the progress of the mind, degenerated still; writers became careless of their style: they introduced foreign words and diction. The causes of this anomaly were various. The recent splendour of the French literature in the age of Louis XIV., and the fashion that made French a sort of continental language, owing, in some measure, to the greater simplicity of its construction, which rejects inversion; the intercourse between France and Italy; the scientific, political, and philosophical works of the eighteenth century,

which were also produced in France, and the popularity of the new ideas they imparted,—all these, added to the previous decay of the spirit of Italian literature during the seventeenth century, made the studious and the curious turn to France, read and quote French books, and translate French works into a sort of slovenly Italian. The effects of this became apparent not only in the introduction of foreign words, to which a mere Italian termination was given, but still more in the construction of sentences, and in the adoption of foreign phrases and idioms. 'We have been inundated,' says the late Cesari in his dissertation on the state of the Italian language published in 1809, 'by a quantity of bad translations from the French, in which the syntax of that language and all its peculiarities of idiom are preserved, most of the words having nothing of Italian except the termination. We have numerous treatises on the natural sciences, even those now used in our schools, among which I cannot find one whose language bears the least mark of Tuscan idiom and Tuscan spirit. And this, not because we want good words to express scientific objects and ideas,—for it is easy to prove the contrary by referring to the works of Passavanti, Crescenzi, Galileo, Redi, Aldobrandini, Montecuccoli, Bartoli, and the numerous works on agriculture, on the medical sciences, &c., all written in pure language; but because the modern compilers of scientific treatises, being, *like most men*, *inclined to save labour*, would not take the trouble of consulting the old writers or the dictionary, but found it a shorter and easier task to coin new words out of the foreign works from which they took the matter of their dissertations.'

Among the literary men, several, such as Zanotti,

Manfredi, Gasparo Gozzi, Varano, opposed the prevailing corruption, which spread most widely in the spoken language. Young men, natives of the dialect states, instead of applying to the study of the written Italian, preferred learning French, as was then the fashion, and many were found, especially in the north, speaking good French, who could not put together ten words of correct Italian. The greater number, however, spoke bad French and worse Italian, or rather no Italian at all, but a mixture of French, dialect, and Italian words. Alfieri, Parini, Foscolo, and other truly national writers living at the close of the 18th century, complain bitterly in their works of the degradation of the language. There were, however, some men of learning and talent who encouraged the corruption. Among these, Bettinelli and Cesarotti were most conspicuous. Both were imbued with the current French literature of the time, and preferred Voltaire's epigrammatic sentences to the more round and sonorous Tuscan period. But this was not all. Bettinelli, a Jesuit, after writing a good work 'On the Revival of Letters in Italy after the Dark Ages,' attempted lighter compositions both in prose and verse, in which he introduced a redundancy of adjectives, a profusion of images, a minuteness of description, which serve but to reveal the sterility of thoughts in the writer's mind. He also assailed Dante and Petrarch, but especially the former, whose powerful and comprehensive genius seems to have excited in him a sort of hatred; he even said that there were hardly three hundred lines good for anything in the whole Divina Commedia. And poor Bettinelli after this had the modesty to propose his own insipid blank verses, those of Frugoni, and some of

Algarotti, (the latter, however, openly disclaimed all part in this transaction,) as models, and had them published under the title of 'Blank Verse of three excellent Poets.' 'Bettinelli and Roberti,' says Foscolo, 'were at the head of the Jesuitic school, who, being fond of novelty, and yet wishing to avoid gallicisms, loaded their compositions with a thousand useless artificial flowers, and indulged in truncated terminations, especially in the plural number. Roberti was compared to a silvered snail, who leaves wherever he passes tracks of tinsel.' At last Cesarotti came, and he, through love of singularity, and in hatred of the supremacy of the Crusca, openly favoured the introduction of gallicisms. Cesarotti was a scholar, imbued with classic lore, and yet he affected to prefer Ossian to Homer; he was well acquainted with the Tuscan and other good writers of the fourteenth and sixteenth centuries, whose style he has even occasionally imitated, and yet he introduced neologisms and French constructions in his works with greater licentiousness than any who had preceded him. He may be considered as the champion of the Gallic school in the Italian language, as well as of the romantic school in taste and composition. In his philological works, his theory is that of a reasonable liberty in matters of language, but in his own practice he wantonly abused the privilege he claimed. His biographer, Ugoni, justly remarks, that 'an innovator who rises in the midst of a city stationary in literary studies (Cesarotti was a native of Padua, where he studied, and where he afterwards became the professor of the Greek and Hebrew languages) often turns out like the prodigal son of a miser. In both cases the aversion and disgust occasioned by the ex-

ample of one vice leads to the adoption of the opposite extreme.'

In order that the Italian student may better understand the difference between what is considered good language in Italy, and the slovenly foreign style which began to prevail in the last century, we will transcribe from an excellent little work of Costa, "On Italian Elocution," a short extract of two versions of Livy, one by a writer of the fourteenth century, a contemporary of Dante, and the other by a north Italian professor of our own age. We will mark in italics the obnoxious words or phrases in the latter, as noted by Costa:—

LIVY'S TEXT.	OLD TRANSLATION.	MODERN ONE.
Regii quidem juvenes interdum otium convivils commessationibusque inter se terebant.	I figliuoli del re facevano tra loro festa e solazzo di mangiare e di bere, ed ora nel padiglione dell' uno ora dell' altro.	La gioventù *che apparteneva alla reggia* se la passava sovente banchettando, convitando.
Forte potantibus his apud Sextum Tarquinium, ubi et Collatinus cenabat Tarquinius, Egerii filius, incidit de uxoribus mentio. Suam quisque laudare miris modis: inde certamine accenso, Collatinus negat, verbis opus esse; paucis id quidem horis posse sciri quantum cæteris præstet Lucretia sua. Quin, si vigor juvente inest, conscendimus equos, invisimusque præsentes nostrarum ingenia? Id cuique spectatissimum sit, quod nec opinato viri adventu occurrerit oculis. Incaluerant vino. "Age sane:" omnes. Citatis equis advolant Romam. Quo quum, primis se intendentibus tenebris pervenissent, etc.	Una sera essendosi ragunati nella tenda di Sesto Tarquinio, Collatino figliuolo di Egerio, mangiando con loro, elli cominciarono a parlare delle loro mogliere; ciascuno pregiava la sua maravigliosamente, onde gran contenzione e prova si levò trà loro. Qui non ha bisogno di parole, disse Collatino; in poco d'ora possiamo sapere come Lucrezia mia moglie avanzi tutte l' altre di pregio. Sagliamo, diss' egli, a cavallo, e andiamo a Roma e sappiamo che opere fanno le nostre femmine, e quella sia la più pregiata che in miglior opera sarà trovata, quando ella non avrà niente saputo della venuta di suo marito. Elli erano caldi di vino, e senza indugio montarono a cavallo e andarono correndo a Roma. Quando vi furono giunti, cominciò a far notte.	Cenando essi per avventura *presso* Sesto Tarquinio, dove era intervenuto anche Collatino Tarquinio, figlio di Egerio, il discorso *cadde* sulle mogli. Esaltava ciascuno la sua in modo maraviglioso. *Infiammatosi la disputa* Collatino sostiene che non v' ha bisogno di parole, che in breve ora si può sapere di quanto Lugrezia *sorpassi* tutte l' altre. Siamo giovani e forti, perchè non montiamo a cavallo, e non andiamo noi stessi *a riconoscere la condotta* di nostre donne? *Ritenga* però ognuno per fermo e dimostrato ciocchè verrà a cadergli sott' occhio nel non pensato ritorno del marito. Eran caldi di vino, e gridan tutti; andiamo; e *volano* a Roma *di pien galoppo:* vi giungono sull' imbrunir della sera.

The invasion of Italy by the French in 1796, and its subsequent occupation by them till 1814, sunk the Italian language to the lowest point. It really seemed at one time as if that beautiful idiom was becoming extinct. In the greater part of Italy, absurdly annexed to the French empire, which included Piedmont, Genoa, Parma, Piacenza, Tuscany, and Rome, French was the language of the rulers, of the chief officers and magistrates, the language of the bar, the official language in short, and consequently the forced one of refined society. At last, in March, 1809, a decree of Napoleon allowed the Italian language to be used in Tuscany conjointly with the French in pleading, as well as in legal documents, &c. He also allotted an annual premium to the best work in Italian. But this solitary encouragement had little effect in counteracting the whole tendency of his system. In Lombardy and the Venetian states, which were designated by the high-sounding appellation of Kingdom of Italy, Italian was the acknowledged language of government, but French influence and fashion were paramount; French decrees came from the emperor's cabinet; the viceroy was a Frenchman; a French army was constantly stationed in the country; French was the language of *ton*. The same happened in the kingdom of Naples; there was a French king and queen, a complete French court; French superior officers, civil and military; a French stationary army; and the Neapolitans learned to talk broken French in preference to Italian. Italians in general do not excel in their pronunciation of French, and the Neapolitans are especially awkward in the diphthongs. It was during that epoch of moral servility that the most barbarous neologisms were introduced,

not because Italian words were wanted, but because young men, ignorant of their own language, adopted the words of their French masters, which had become familiar to their ears. Then such words became current as *arrangiare* for *porre sesto*, *arrivare* for *accadere*, *paralizzare* for *sospendere*, *vidimare* for *contrassegnare*, *disorganizzare* for *sconcertare*, *abbonarsi* instead of *associarsi*, *debordare* for *traripare*, *percezione* instead of *riscossione*, *trattamento* instead of *onorario*, and a crowd of *chittanze*, *restanze*, *ammonti*, *rinvii*, *funzionarj*, *contabilità*, *burò*, *borderò*, *rapporti*, *redattori*, *riviste*, and the verbs *energizzare*, *rivoluzionare*, *democratizzare*, and such like, with which the newspapers and political pamphlets of the republican period were spangled; and also phrases, such as *vengo di dirvi*, *sul campo*, *mettersi in rotta*, *senza ritorno*, and a thousand other barbarisms of this sort, the meaning of every one of which could have been rendered by sound and plain Italian words, to be found in almost every author, and in every dictionary. A bastard jargon was thus formed, neither Italian nor French, but which resembled rather the *Lingua Franca* which is used in the harbours of the Levant and on the coast of Barbary; and it was not only spoken, but written and printed in the public documents, and even in the legislative enactments of the newly-created governments. The minister of the interior of the kingdom of Italy, Count Vaccari, wishing to place some restraint on this abuse, induced a man of letters to compile 'an index of words commonly used, which are not in the Italian dictionaries,' which was printed at Milan in 1812.

Peace came, and with it the evacuation of Italy by the French. The restored governments, whatever their

other deficiencies may be, are at least Italian, with the exception of that of Lombardy. But even in the latter, the total dissimilarity between the German and the Italian tongues, and the little sympathy existing between the two people, prevents any corrupting influence being exercised by the former; and the language of the administration, of the judicial courts, and of the schools* continues to be the Italian. Indeed, the love of the national language, almost extinct under the French, has revived to a wonderful degree since the peace. Throughout the preceding period, a few men of genius and honest sentiments had stemmed the current; Parini, Foscolo, Pindemonte, Alfieri, and Monti: the two last, especially, professing themselves disciples of Dante, the great father of Italian literature, who had lain nearly forgotten for centuries past. Their example encouraged others to study the Divine Comedy. Then came philologists and sound critics, who showed the beauties of the Italian, and made their countrymen ashamed of the slovenly jargon that was substituted for it. Such were Napione, Cesari, Lamberti, and Giordani. All these, it may be remarked, were not Tuscans; they were North Italians; and it is from Lombardy that the impulse was given. Gallicisms, both of etymology and syntax, were unanimously condemned and hunted out: *peccavimus* was said with regard to past errors, and in this salutary reform Italians of all parties, and of every state, from Turin to Calabria, agreed. Italian was again the language of all the restored go-

* See Nos. V. and VI. of the Journal of Education, about the schools established by the Austrian administration in Lombardy, one of the principal objects of which is instruction in the Italian language.

vernments, and, what is more, the language of public instruction throughout the Peninsula. But now the old dispute about Tuscan purism and supremacy was revived, and it gave rise to a long, bitter, and voluminous controversy. The attack was, we believe, begun by Monti, who adopted, in some degree, the opinions of Cesarotti, without, however, imitating the extreme neologisms of that writer. This question, between Monti and his son-in-law, Perticari, on one side, and the Tuscans on the other, assumed at first the character of a mere philological problem; viz., whether the written Italian, or *lingua illustre*, has ever been the spoken language of any part of Italy, or whether it was first used in writing by the Tuscans alone, or by writers from various parts of the Peninsula at the same time? We have already said something on this subject; we consider that the language of Dante, Petrarch, and Boccaccio, was never exactly the language of the common people in any part of Italy; but we believe, that, of all the spoken idioms, that of Tuscany resembled it most at the time. That idiom has somewhat altered since, and yet, after a period of five centuries, it still resembles the language of those great Tuscan writers more than any other Italian dialect. We here mean the Tuscan as it is spoken by men of some education, and not the common idioms of some particular districts, which might be compared to our London cockneyisms and vulgar slang phrases. Even in the city of Florence the language of the Camaldoli is full of solecisms. The oral language of Rome stands in a similar predicament. It became refined later than the Tuscan, for this reason, that it remained longer confined to the

vulgar, the court and hierarchy retaining the use of Latin. And yet the life of Cola di Rienzo, written in a familiar style by a contemporary of this tribune, is quite intelligible to all who understand the written Italian. Since the age of Leo X., however, all educated Romans speak grammatical Italian as their native language, and the solecisms and vulgarisms which the lower class still retain, are hardly sufficient to constitute a separate dialect. The songs and ballads of the peasants of the Campagna, some of which have been lately collected and published,* are pure Italian. Rome and Tuscany are, therefore, the two countries where the spoken language can be called Italian, as it bears the same resemblance to the written Italian that the oral language of Paris or London does to the written language of France or England.

But another and a more practical question derived from the preceding is, whether Italian writers ought to follow exclusively the Tuscan authors of the fourteenth century, the *golden age*, as it is called, of the language. We, for our part, should say,—imitate them in the choice and proper application of their words, as far as they can supply them; but with regard to their turn of phrases and their idiomatic sentences, we think some discrimination is required. We ought first to distinguish between the poets and the prose-writers. Among the former, Dante and Petrarch will always continue to be models in their respective walks. Dante, above all, is the great master, the universal Italian rather than

* Saggio di Canti popolari della Provincia di Marittima e Campagna. Edited by the Cavaliere P. E. Visconti, Roma, 1830.

Florentine poet, for he took his words from the various dialects of Italy. Among the prose-writers, Boccaccio has been extolled by many as the first, the only master. The elegance of his language and the choice of his expressions are wonderfully great; but his mode of construction cannot serve as a general model for all kinds of composition. He often indulges in the Latin or Ciceronian period, more than is congenial to the nature of the Italian language, more than can be borne by the active temper of modern elocution. How can a long period, thickset with a forest of articles unknown to the Latins, read smoothly with the governing verb at the end? The turn of Boccaccio's sentences was studied; it was certainly not that of familiar conversation even in his time. The historians, however, of the same date furnish a less ambitious and more fluent style. Dino Compagni, Villani, and, at a later period, Machiavelli, the greatest of all, rejected the inverted order, and wrote a pure current Italian prose. So did Passavanti and Cavalca, and the novelist Sacchetti, who writes as his countrymen spoke. There are, therefore, various models for various sorts of Italian prose-composition. We shall quote here the words of Niccolini, from a discourse which he delivered in 1821 before the academy of La Crusca, that academy which has unjustly been accused of being the holy inquisition of Italian literature: "Let our writers employ, above all, clear determinate expressions, understood by all, spoken and written by many; let them avoid pedantry, as well as licentiousness; let the rules of our language be unto them as a bridle, and not as a chain; let us avoid the error of our fathers in the last century,—who bestowed all their attention on the subjects about which they

wrote, and not on the words in which they clothed their ideas,—as well as the copious verbosity of others, by which it has been observed that the patrimony of human knowledge has not been enriched by one single thought." On the other side, Perticari himself says: "Had we been living in the thirteenth century, we might have freely borrowed words from all the dialects, and thus have enriched the written language which we contributed to create; but the language is now formed, and we cannot make it anew. We may add some new names of objects or ideas unknown to our fathers, and we must consult for this purpose the writer, whether Neapolitan or Milanese, Florentine or Roman, who has first made use of them; but we must not capriciously alter the meaning of words, or substitute alien ones for those already received." Thus men of judgment, when speaking calmly and with honest purpose, generally come nearer each other in their conclusions than they themselves would have supposed at the outset.

And in fact, if, as the more exaggerated purists pretend, no one can speak or write correctly, unless he has drunk in youth of the waters of the Arno, or at least unless he has long resided on the banks of that stream; it follows that the rest of the Italians ought not to attempt to write at all, and that Tuscany must remain in single blessedness separated from the rest of the peninsula. But these are not the sentiments of enlightened Tuscans. On the other side, we must not judge of the Tuscan language from the caricatures of it that have been drawn by Goldoni and others, who represent the Cruscante as a pedantic, absurd-talking being.

We have expatiated at some length upon these philo-

logical questions, because students of Italian cannot fail, especially if they should travel into Italy, to hear and read much about this controversy, and they might be puzzled and disheartened by the exaggerations of the more violent zealots of either party. Italian is a language that requires to be studied assiduously, in order that one may perceive its power and its beauties. The best scholars of Italy, men grown old in philological studies, have acknowledged that the longer they have laboured at their own language, the more they have discovered its capabilities, and the elegance, and at the same time the precision and strength, of which it is susceptible. We are of opinion, that no writer has yet exhibited all these powers in their fulness. Nor do we think that the zeal with which questions of language have been discussed by the Italians of late years, although carried sometimes beyond the verge of sound philosophy, is either misplaced or useless, for the subject is to Italy a matter of high importance in a national point of view, as no people without a common language can ever rank as a nation.

The field of Italian literature is much more extensive than is generally supposed. We have mentioned a few of the most distinguished writers of various ages; but for the rest we must refer to the numerous bibliographers, to Tiraboschi, and to Lombardi, the continuer of his work, to Fontanini, Crescimbeni, Gamba, &c. We may, perhaps, in a future part, give a critical list of the best grammars, dictionaries, and other works which may afford valuable assistance to students. The English have, until lately, derived their notions about Italy, the Italians, and their literature, chiefly through French channels, a medium not always to be depended upon.

It is time that every nation should be heard in its own cause. No one ought to form a judgment of matters connected with other countries, unless he has referred to the best native authorities. It is a common error, derived from political exaggeration, to suppose that the Italian mind has been asleep ever since the restoration of 1815. Never perhaps was there a period during which it was so active. The presses of Milan, Pavia, Padua, Venice, Turin, Florence, Rome, Naples, and Palermo, bring forth every year numerous works, of which very few ever cross the Alps, or are known even by name to foreign critics. Almost every town of Lombardy has its presses employed. We might refer to the pages of the Biblioteca Italiana, and to those of the Antologia of Florence, the two best literary journals of Italy, where monthly lists of the new publications are to be found. But these lists do not include by far the whole of the new works. Many books are published in southern Italy, at Naples, and in Sicily, which are hardly ever known, even by name, at Florence or Milan. The want of security for literary property is a great evil. As soon as a work of any attraction is published in one of the Italian states, reprints of it appear in others. This is to writers and booksellers a more severe check than even the censorship; yet in spite of these discouragements, Italy has produced during the last twenty years excellent works of history, biography, classical learning, and illustration of the arts, as well as books of travels, historical novels, essays, descriptive sketches, in short all the materials for an entertaining library, in which Italy was before rather deficient; likewise good works on science, jurisprudence, public economy, besides an immense number of new and correct editions

of former writers, and especially of the chronicles of the middle ages, to which we see with pleasure the Italians have turned their attention, for in them are to be found the true elements of modern Italian civilization and nationality. Among the original works, we will mention a few that occur to us now; Micali's Italy before the Roman dominion, Pignotti's excellent History of Tuscany, Botta's important History of Italy during the French invasions and late occupation of the country, and again his recent continuation of Guicciardini, Cicognara's History of Sculpture, Ferrario's History of Chivalry and Romance, Litta's splendid biographical and archæological work on the great Italian families, Inghirami's Etruscan Antiquities. Among the jurists and political economists, Romagnosi, Gioja, Tamburini, are illustrious names. The plays of Nota and Giraud; the tragedies of Pellico, Manzoni, and Niccolini, are justly admired. Manzoni has given Italy the best, we may say the first, historical novel she ever had, and numerous writers have now followed the same career. Della Cella, Brocchi, Raddi, Breislak, Rosellini, have published their travels undertaken for objects of learning or science. Of poets and philologists, Monti, Foscolo, Pindemonte, are lately dead. Among scientific men, Vaccà, Piazzi, Volta, Scarpa, Oriani, are also departed. But Aldini, Brugnatelli, Configliacchi, Ferrara, Conti, and Mai are living. All the above names, and we have only mentioned those most generally known, afford a sufficient refutation to those who pretend to say, that Italy is "the land of the dead." There exists considerable difficulty in England in procuring new works from the various parts of Italy; there is, however, one

Italian bookseller in London, Rolandi, of Berners Street, who keeps up a correspondence with the principal houses of Milan and Florence, and is pretty regularly supplied with most of the new works from the Italian press.

ON THE STUDY OF THE ITALIAN LANGUAGE.

(From the Quarterly Journal of Education, No. XII.)

We promised in a former Number* to offer some suggestions to students of Italian in this country, with respect to the method of learning that language, and also to give a list of the best grammars, dictionaries, and other works, which may afford assistance. We cannot enter here into an elaborate grammatical dissertation; we shall merely make such remarks, and offer such hints as have occurred to us at various times.

The first thing is to acquire a good pronunciation. For this purpose it is requisite that the teacher, if not a native of Tuscany or Rome, should at least be familiar with the pronunciation of educated people in those countries, as we have already explained in our former article; and that he should pronounce, for instance, the letter *u* full and round, like the English *oo*; that he should be exact in discriminating between the two sounds of the *e* and of the *o*, as well as those of the *s* and the *z*; and also in pronouncing the syllables *ce* and *ci*, which ought to be sounded as the English *ch*, though somewhat more softly; the *sce*, *sci*, which latter have the sound of the English *sh* in *shame*, *shin*;

* No. X. of the Journal of Education, p. 265.

the *gl*, which is pronounced as the French *il* in *bouilli*, and the *gn*, which sounds as in French in the word *Espagne*. These we consider as the principal tests of Italian pronunciation, and the student himself will soon discover, by referring to a good grammar, such as that of Galignani, edited by Montucci, Lecture I., whether his teacher is deficient in any of these requisites. Let him not, however, carry his suspicion and fastidiousness to extremes, for he will find many well-educated Italians, and such most Italian teachers in this country certainly are, who are acquainted with the proper pronunciation in all the above cases, and who yet in common conversation occasionally deviate from it. If the pupil feels any doubts in some particular instance, he ought to call the attention of the teacher to the point, so as to define at once the proper sound of the word, which when acquired he will not easily forget. Of the aspiration by the Florentines of the *ca*, *co*, *cu*, *che*, *chi*, we have already spoken, and we can only add that it ought to be avoided. Montucci remarks that this habit is very ancient, and occurred in the Latin language, as appears by the epigram :

> Chommoda dicebat, si quando commoda vellet
> Dicere, et hinsidias, Arrius insidias.

Arrius must have said *cho*mmoda, exactly as a Florentine would; and *hin*sidias, like a modern vulgar cockney.

The pronunciation of Italian is not difficult to acquire by natives of England. It is much easier for them to pronounce Italian than French. We have known persons read Italian pretty correctly after one or two lessons. The greatest difficulty is in the accent, of which there is one, and only one, in every polysy-

labic word. The stress is laid on the accented syllable by raising the voice. The Italian accent is seldom written, except when it falls upon the last syllable of a word where it is marked (`); the Italians having adopted the grave accent for terminations, and reserved the acute for the middle of words. The accents do not, as in French, mark the broad or close pronunciation of the vowel itself. In the middle of words, the accent is used only where it is necessary to avoid ambiguity; as *balía*, 'power,' to distinguish it from *bália* 'nurse,' in the latter word the accent being on the first *a*. Some monosyllables are written with an accent for the same reason: *dì*, 'day,' as distinguished from the preposition *di*, 'of.' Likewise *piè*, 'foot,' is distinguished by the accent from *pie*, plural of the feminine adjective *pia*, 'pious,' and *già*, 'already,' from *gia*, a poetical word, signifying 'he went.' In these cases the accented word is invariably a monosyllabic diphthong, whilst its non-accented *double* may be counted in poetry as two syllables: pi e, gi-a. The first class of diphthongs are called *raccolti*, in which the first vowel is hurried over, and is less discernible by the ear than the latter; and the second class are called *distesi*, in which both vowels are equally sounded in pronunciation.

In dissyllables there can be no difficulty about the accent, for unless it is written on the last syllable, it lies necessarily on the first. But words of more than two syllables are often perplexing to a foreigner. Most dictionaries now, however, have the accented syllable marked.

We would advise the student to make his teacher read to him loud and slowly separate Italian sentences, with the proper accent and intonation, and he should

then repeat them after him until he can imitate him perfectly. From a short sentence he ought to pass to a long period, and lastly to a whole paragraph of good Italian prose, such as Villani or Machiavelli. This exercise ought to be frequently repeated; and in the absence of the master, the student ought to repeat aloud to himself the same paragraph. Indeed, reading aloud is a useful practice that ought to be repeated often, and persevered in. The ear cannot be too soon accustomed to the sound of foreign words and foreign periods. This is particularly important with regard to Italian, a language of which harmony is so essential an element, and which becomes absolutely odious when spoilt by bad pronunciation and bad intonation.

Italian orthography is perhaps the easiest of any language in Europe. There are no mute letters, except the *h* in a few words; the vowels have each a distinct sound; the diphthongs retain the pronunciation of each of their component parts, and do not, as in French or English, produce a third sound different from both; in short, it is hardly possible for a person who hears an Italian word distinctly pronounced, and is familiar with the Italian alphabet, not to be able to write it correctly. Consequently, we do not meet with so much bad spelling among the Italians, as among other nations. A good ear is in most cases a sufficient guide. Writing under the dictation of a teacher is a very useful exercise for a beginner.

With regard to Italian grammars, of which the number is almost countless, both in French and English, all have some good parts in them, as well as many deficiencies. We would recommend at first a concise one, such as the *little one* of Biagioli, entitled *Grammaire*

Elémentaire à l'usage de la Jeunesse, 12mo., or the one of Vergani, edited by Piranesi. Bating his conceit, Biagioli was certainly one of the best Italian teachers in our days; but there is no occasion to follow him all the way in his favourite theory of the ellipsis, which he carried to a ludicrous extent. Galignani's 'Twenty-four Lectures on the Italian Language,' revised and edited by Dr. Montucci, we have already mentioned. Although not a complete grammar, it has some parts very complete, especially Lectures XI. and XII., on the intricate subject of the conjunctive pronouns or affixes, which deserve to be attentively studied. In the 18th Lecture also, there is a very useful table of the various auxiliaries which can be used with Italian verbs, corresponding to the English idioms:—'I am (doing a thing), I must or ought to, I am going to,' &c. The reader, on perusing this table, with the accompanying remarks, will have an insight into some of the capabilities of the Italian language as to precision and variety of expression. *Egli stava parlando, ei veniva parlando, egli andava parlando*, all convey different meanings, while *egli stava per parlare* varies in degree from *egli era per parlare;* the first meaning 'he was on the very point of speaking,' and the second merely 'he was going to speak.' *Si fece a parlare*, 'he began, or set about speaking,' &c.

The diminutives and augmentatives furnish an almost inexhaustible store of Italian words; but we would caution the student against making use of them too freely, as the propriety of their application depends chiefly on custom and euphony, of which a foreigner can hardly ever be a competent judge. To show the variety of diminutive and augmentative affixes of which

some nouns are susceptible, we will quote *ragazzo*, 'a boy,' from which are made *ragazzino*, *ragazzetto*, *ragazzello*, *ragazzuccio*, *ragazzotto*, *ragazzone*, *ragazzaccio*; and the compound ones: *ragazzellaccio*, *ragazzettuccio*, *ragazzettino*, *ragazzonaccio*, &c. Each of these expresses a different qualification or attribute: *ragazzetto* is merely a little boy, *ragazzino* a delicate little boy, *ragazzello* a common little boy, *ragazzone* a great boy, *ragazzotto* a stout boy, *ragazzuccio* a tiny little boy, *ragazzaccio* a good-for-nothing boy, &c. Some of the above affixes are applied to both substantives and adjectives, others to adjectives only, as *verde*, *verdigno*, green, greenish; *rosso*, *rossiccio*, &c. Others have a collective meaning, such as *legna*, *legname*; *agro*, *agrume*; *alberi*, *albereto*; *concia*, *concime*, &c. Some can only be used with particular nouns, as *casa*, *casupola*; *libro*, *libercolo*; *medico*, *medicastro*; *cane*, *cagnazzo*. We can say *vecchiarello* but not *vecchiello*, *donnetta* but not *donnella*, *bastoncino* and not *bastonetto*. Euphony and propriety in the association of ideas are the principal guides in these matters.

The vast field of derivatives has been yet hardly examined by grammarians. Many derived words, having a common termination, imply the same modification of the meaning of their respective radical, for instance, *ferrajo*, *sellajo*, *materassajo*, *vasajo*, *calzettajo*, &c., mean a dealer in, or workman of, the article expressed in the first part of the word, namely, ironmonger, saddler, &c. A numerous class of nouns derived from verbs end in *tore*, *amatore*, *feritore*, *ingannatore*, &c. Others in *abile*, *ando* or *ivo*, *esecrabile*, *esecrando*, *nocivo*. A large class of adjectives are formed from substantives by adding *oso*, *amore*, *amoroso*, *paura*, *pau-*

roso, &c. A knowledge of Latin will greatly assist the student in the formation of these derivatives. Most substantives derived from adjectives end in *tà*, *za*, *zia*, and *udine*: *probo*, *probità*; *prudente*, *prudenza*; *stolto*, *stoltezza*; *pigro*, *pigrizia*; *mansuelo*, *mansuetudine*. But the real formation of the Italian nouns is seen better by comparing them with the corresponding Latin. Thus nouns in *tà* come from Latin words in *tas*, as *probitas*, *probità*: those in *za* from terminations in *tia*, as *prudentia*, *prudenza*, and so on. We merely throw out these hints, of which the student may avail himself, by classing words according to their termination, and thus becoming acquainted with whole families of them at once. Also in learning a new verb, it is well to find out all the substantives and adjectives as well as the adverbs, that can be derived from it; as *consolare*, *consolatore*, *consolatrice*, *consolante*, *consolabile*; *abbominare*, *abbominevole*, *abbominando*, *abbominoso*, &c. All these terminations cannot be affixed to every verb indiscriminately; that in *ando* is used in comparatively few cases, and that in *abile* changes in some verbs into *evole*, and in others into *ibile*. *Esortare* makes *esortatore*, *esortatrice*, *esortazione*, *esortativo*, *esortatorio*, *esortatoriamente*, *esortabile*. From *arrendere* are made *arrenditore*, *arrenditrice*, *arrendimento*, *arrendevole*, *arrendevolezza*, *arrendevolmente*, *arrendibile*, *arrendibilità*.

One of the difficulties in the Italian syntax consists in finding out the preposition required between a verb and the following infinitive. The English have generally little difficulty in their own language, in which the particle *to* answers the purpose in most cases. In Italian, it may be either *di*, *a*, *per*, or *da*. *Vi pro-*

metto di farlo. Non pensa à far cosa alcuna. Viaggia per istruirsi. Urla da fare assordire. In this respect the Italian construction resembles the French, excepting the *da*, the use of which is peculiar to the Italian language. Again, the case after the verb, as some grammarians express it, meaning the preposition that the verb takes after it, and before the noun following, is a subject of some difficulty; 'it pleases me' is rendered in Italian by *piace a me;* 'he thinks of me,' *pensa a me*, &c.

Barberi, in his 'Grammaire des Grammaires Italiennes,' has given some directions about this part of the syntax, and upon the use of prepositions in general. A dictionary of the Italian verbs, after the manner of M. Tarver's Dictionary of the French verbs, specifying the prepositions which each verb takes before the noun or infinitive following it, is wanted, and would prove a very useful book to the Italian student.

With regard to the mechanical formation of the verbs, their inflexions and irregularities, there has been no want of expounders. Pistolesi published a treatise on the Italian verbs, and Mastrofini after him wrote two good-sized quartos on the same subject, which, however, Compagnoni mercifully curtailed and compressed into a small 12mo. 'Teorica dei Verbi Italiani, regolari, anomali, difettivi, e malnoti.' Milan, 1820. It is a useful little work.

Certain prefixes being coupled to verbs or verbal nouns always produce the same modification in their meaning; *dis* answers to the English *un:* thus *fare* signifies to do, *disfare* to undo; *piacevole*, pleasant; *dispiacevole*, unpleasant; *simile*, *dissimile*, &c. But the use of this prefix in Italian is carried to a greater ex-

tent than that of either the *un* or *dis* in English, as may be seen by looking in the dictionary at the letters '*dis*.' *Ri* likewise invariably means repetition; *fare*, *rifare*, to do again; *rifacimento*, *rifatto*. *Stra* implies excess; *cotto*, cooked; *stracotto*, overdone. *Tra*, *tras*, and *trans*, answer to the English *trans*, &c., *tra*piantare, *tras*portare, *transfigurazione*.

We would advise the student, as soon as he is able to write connected sentences in Italian, to take up a good prose book, either epistolary or narrative, such as Bentivoglio's Letters, edited by Biagioli, or those of Annibale Caro, both excellent models of style; and having translated some pages into literal English, so as to understand thoroughly the meaning of the author, to retranslate from his manuscript into Italian. After this, he should compare his own version with the original text, and observe those variations in the former which proceed from bad grammar, and those which are owing to idiom or peculiarity of style in the author. The former he will of course immediately correct; the latter might be noted down in a vocabulary or phrase-book. By persevering in this course he will acquire a much sounder knowledge of the language and its peculiarities than by labouring, week after week, and month after month, in translating into slovenly Italian the ill-digested mass of unconnected dull sentences under the name of exercises, with which most grammars are swelled. We do not mean to say that, in the first period of his study, the various rules of grammar should not be illustrated each by a few short sentences; but these ought to be taken as much as possible from some writer of established authority, as Biagioli has done in both his grammars; the only fault is, that his

quotations are too frequently from the poets; we should always prefer quoting from prose-writers. And here we touch on another point, to which we would call the earnest attention both of masters and pupils. It has been too much the practice to put at once into the hands of students the works of the great Italian poets, instead of beginning by grounding them well in good colloquial, epistolary, and narrative prose-style. The practice appears to us so absurd, that we can only account for it by the remark, that as the study of Italian did not constitute, until lately, a part of education in Italy, the Italian prose-writers, with few exceptions, such as Boccaccio, were hardly known to the Italians themselves, and people had at last adopted the notion, which we have ourselves often heard expressed, to our astonishment, that the Italian language was only fit for poetry. The editions of most Italian prose-works were old, scarce, inelegant, and cumbersome, and lay neglected in the dust of libraries. It is chiefly within the last fifteen years that new and cheap editions of the Italian prose-writers have appeared in great abundance; Italians, as well as foreigners, have found out that Italy was as rich as any country in almost every branch of a national library, with the exception, perhaps, of *novels* in the modern acceptation of the word, for of tales there is a superabundance; the deficiency, however, in novels, Manzoni, Rosini, Azeglio, and others, have since filled up.

The language of Italian poetry is so different from that of prose, that a student who has read only the poets will never be able to express himself intelligibly either in writing or speaking. Another objection we have to the early use of the poets, especially by females,

is, that most of them are exceptionable in a moral point of view. Some parts of Ariosto and even of Tasso cannot be translated to a young female; and if the teacher passes them over, the omission has nearly as bad an effect as the explanation would have. We speak from experience, for we remember finding ourselves in an awkward predicament, being requested by a young lady to read to her Ariosto, which she had already begun under some other advice, until we came at last to a dead stop. Teachers, if requested to read objectionable works to a female pupil, should say at once honestly, either to her or to her parents, that they are not books for young ladies. This is not prudery, but common propriety. In Dante likewise there are passages that cannot be explained to a lady. Petrarch is harmless, though rather too languishing and amorous, yet we would not object to it, especially as the beauty of its language is so great. Metastasio is easy, and affords a pleasing light sort of reading.

Alfieri's tragedies, with the exception of Mirra, all the works of Ippolito Pindemonte, a favourite writer with us, Pellico's dramas, Monti's Basvilliana and Mascheroniana, the Visioni of Varano, the fables of Pignotti and of Bertola, Ugo Foscolo's Sepolcri—these are books that can be put into any one's hands. But we should wish to see a pupil well acquainted with prose first. Let him read the historians as soon as he is able, for Italy can truly be said to boast of her historians. Dino Compagni, the two brothers Giovanni and Matteo Villani, Machiavelli, Segni, and Guicciardini, form a splendid series. We would particularly recommend Machiavelli's History of Florence for the simple nervousness of his style. All Machia-

velli's historical and political works deserve to be studied both for matter and manner. He was one of the greatest minds that Italy has ever produced; he was a plain-spoken man, one of the last of the old school of Florentine writers, before courtly flattery and foreign servility had corrupted the Italian style. Boccaccio is of course unfit for young people on the score of morality.

We ought to say something of dictionaries and vocabularies. We have recommended a short grammar, but we do not recommend a pocket dictionary. The latter is only useful to travellers, and for such Graglia's English and Italian is the best. But let the student at home provide at once a good dictionary, such as Alberti's Italian and French, of the late editions of Bassano or Milan, 2 vols. 4to. The great dictionary of Bologna, just completed, in 7 vols. 4to., is too bulky and expensive for common use. It is, however, the fullest dictionary of the Italian language existing, and ought to have a place in every Italian library. It contains, besides all the words of the dictionary of La Crusca, the additions supplied by Monti in his Proposta, and by others, and all the technical words of arts, trades, and professions, with which the Italian language has been enriched for a century past. It also contains at the end a copious vocabulary of Christian and other names of persons, and another of geographical and historical names, both substantive and adjective.

For those who wish to study particular works relative to arts or sciences, there are technical vocabularies, such as Dizionario Botanico di Gallizioli, 4 vols. 4to. Firenze, 1809-12. Dizionario ragionato di Commercio e Giurisprudenza marittima, di Baldasseroni, 4 vols. 4to.

Livorno, 1813. Dizionario Militare Italiano di Grassi, 2 vols. 8vo. Torino, 1817. Vocabolario di Marina, di Stratico, 3 vols. 4to. Milan, 1813. Dizionario delle Belle Arti del Disegno, 2 vols. 8vo. Bassano, 1797. Dizionario do Veterinaria di Bonsi, 5 vols. 1794. Dizionario Etimologico di tutti i Vocaboli usati nelle Scienze, Arti, e Mestiere, che traggono origine dal Greco, compilato da Bonavilla, e continuato dal Professore Marchi, 3 vols. 8vo. Milano, 1820. Dizionario Etimologico Scientifico, 3 vols. 16mo. Verona, 1820 (the first volume contains the words used in metaphysics, jurisprudence, and literature; the second, those belonging to the natural sciences, mathematics, and geography; the third, the historical and mythological words). Also a Dictionary of Medical and Surgical Words by Pasta, Brescia, 1769, and Verona, 1806, and the *Rimario* or Dictionary of Rhymes, by Rosasco, 4to. Padova, 1763.

The great affinity between the Italian and Latin languages, especially in all that concerns etymology, the derivative words, verbal nouns, the inflexions, &c., renders the grammars and dictionaries common to both of great service to the student. Soave's *Grammatica delle due Lingue Italiana e Latina*, Milano, 1820, which has been adopted by the gymnasia of Lombardy, can be justly recommended.* From Soave's Grammar the Abâte Bianchi has made a smaller one only for Italians, called *Grammatica ragionata della Lingua Italiana*, Brescia, 1829, with many additions. We have found more sound remarks in this two shilling little book, es-

* We cannot say as much of Soave's *Novelle*,—a book we have seen used in this country, the style of which is far from correct. We should always advise reading the old writers in preference.

pecially concerning the derivatives, the prefixes, and affixes, and the government of nouns and verbs, than in most of the other Italian grammars put together.

We will transcribe here, as a philological curiosity, illustrative of the great etymological affinity between Italian and Latin, the following lines, quoted by Gamba, and addressed to Venice by a citizen of that republic before its fall, and which read equally in both languages. It is of course a constrained composition, and serves merely to show the possibility of the thing :—

Te saluto, alma Dea, Dea generosa,
O gloria nostra, o Veneta Regina!
In procelloso turbine funesto
Tu regnasti secura ; mille membra
Intrepida prostrasti in pugna acerba.
Per te miser non fui, per te non gemo;
Vivo in pace per te. Regna, o beata,
Regna in prospera sorte, in alta pompa,
In augusto splendore, in aurea sede.
Tu serena, tu placida, tu pia,
Tu benigna ; tu salva, ama, conserva.

There is also the following well-known invocation to the Virgin Mary, the lines of which, besides the words being in both languages, retain the poetical measure in both :—

In mare irato, in subita procella,
Invoco te, nostra benigna Stella.

The English scholar will find out in studying Italian, that the syntax of the latter approaches that of the English more than the French does, and that many Italian works can be better translated into English than into French, and *vice versâ*, from the English into Italian. Professor Rossetti, of the King's College, justly observes, that between the French and the Italian there is a mere etymological affinity; while between the Italian and the English there is the more important analogy, that of

construction; and that while the French student can easily understand the meaning of most Italian words, the English will, with greater facility, seize the meaning of Italian sentences and periods. There is also a greater sympathy between the literature of the two latter countries; both have distinct languages for prose and for poetry; the same roundness of periods prevails in both; both are capable of a great variety of phraseology, and the English comes much nearer to the Italian than the French in its susceptibility of inversion. We would therefore advise English pupils to study Italian by means of their own language in preference to adopting the medium of the French, which, in many cases, will prove to them a hinderance rather than a help.

ON LEARNING SINGING.

By MR. BARWELL.

(From the Quarterly Journal of Education, No. XVIII.)

Singing is an acquirement which perhaps gives more general pleasure than any other accomplishment, since it affords gratification even to those who are ignorant of the art, and does not, like instrumental music, require a practical audience in order to be appreciated, nor, like painting, a particular education in order to perceive its beauties. The love of sweet sounds seems a part of our nature; and these, when connected with poetry, address themselves to the understanding and to the sensibility, as well as to the ear.

Music, and vocal music especially, forms a valuable addition to domestic enjoyments, and as a female accomplishment deserves cultivation upon this ground, as well as upon the principle that women should possess as many rational resources as possible both for their own happiness and that of those who look to them for solace and amusement. While we urge the expediency, and in some sort the necessity, of acquiring the art of singing, we must allow, that it already often engrosses a large portion of female education, to the exclusion of many more important attainments; and we regret to add, that, after much application of time and labour, the result is frequently either entire failure, or at least partial disappointment—for which we account in the following manner.

Singing is properly regarded as a part of female edu-

cation; yet the necessary organic formation is not generally considered in the outset, neither is the end proposed precisely ascertained, nor the best means of attaining it determined. Parents wish their children to be musicians, and yet it often happens that they are themselves entirely ignorant of the real meaning of the term, and unable to decide what constitutes excellence in the art, or how that excellence may be obtained. On the other hand, many persons of uncultivated ears and indifferent education imagine that singing is a gift of nature, and requires no training; but this is a mistake. In the art of speaking, defects are to be overcome, and particular kinds of excellence acquired by a proper training: so is it with singing; both arts alike require discipline.

It has been often said, that nothing is worth learning that is not worth learning well. This maxim applies to music equally with other things; and for this reason we would endeavour to show how an acquirement which contributes so largely to individual and general happiness may be best attained, and with the least expenditure of time. We shall here confine ourselves to singing, the highest branch of the art, which more completely calls into exercise the sensibilities of the performer than any other branch of music. We do not propose to treat of professional education, and we are also speaking of female instruction only, though most of our remarks are generally applicable.

We presume that the pupil has some knowledge of music; that she plays the piano-forte as well as is usually judged necessary to accompany herself, and understands musical terms. It is first necessary to ascertain whether the voice and the ear promise any results, and when parents are not themselves qualified to

determine this point, they must consult disinterested and competent judges. The cultivation of a feeble voice requires time and labour on the part of the pupil, and probably the result will be only mediocrity.

In determining the natural capabilities, there are two points to be examined, first, whether there is any power of imitation, since it is evident that all singing must be resolved into an imitation by the voice of sounds heard by the ear. If the pupil is totally incapable of repeating the sounds of an instrument, or another voice, all attempts to learn singing are hopeless.

Secondly, presuming the imitation to be made, it must be next ascertained whether the notes be strictly in tune, and if they be not, whether the imperfection arise from a density of hearing, or from weakness in the voice itself; and also (which a few trials will decide) whether the natural defect in formation is likely to be overcome by practice. It must however be borne in mind, that the few natural notes in the human voice are those used in speaking, and that the high and low tones have mostly to be made. The capabilities for acquiring these are of course greater in some than in others.

If these points be determined unfavourably, we conclude that no rational person would contend against nature in a matter which does not concern the moral welfare of the pupil; and that, where organic capability does not exist, the attempt to learn will not be made.

Those who do not possess the qualities which are essential to a singer have other sources of gratification, which, when judiciously cultivated, will be productive of equal pleasure. We would therefore earnestly recommend persons who are not so gifted to waste no time on a pursuit the failure in which will inevitably

produce great disappointment, and something like disgrace, since a want of success will be put down by the world to general natural incapacity, ignorance, idleness, or insensibility.

We next consider how the pupil whose natural organs are worth cultivating may be best trained. The object of vocal art is to produce agreeable sounds, and, at the same time, to modify those sounds to the expression of the words which are uttered in connexion with them, and which are presumed to have dictated the sentiment of the melody to the composer. The word *tone** comprises all the elements of the art; and the power of varying the character of tone constitutes expression. However sweet, rich, or powerful a voice may naturally be, cultivation and practice alone can confer the power of modifying its quality to suit the sentiment or passion which the words and the music express.

Purity of tone (which necessarily implies perfect tune) is the first object to be attained in learning to sing; and to acquire this, the practice of the diatonic scale, ascending and descending, beginning on C natural (the C on the first ledger line below the lines) and ending where the compass of the voice ceases, ought to be steadily pursued,

By *pure tone*, we mean that the notes emitted by the voice are free from the guttural thick sound which shows that they are formed in the throat—from the snuffling which indicates that the nose is not performing its proper function—and from the muffled indistinct sound which indicates the improper action of the

* It must be observed that *tone* and *intonation* are distinct things: the former refers to the quality or character of the sound, the latter to its tune or pitch.

[illegible] Some one of these defects is generally [illegible] The best method of [illegible] is the one which makes [illegible] the most [illegible] and it is this that we [illegible] are recommending. Nothing is more difficult than to overcome these but a good master may [illegible] either making the pupiltone or [illegible] which may be imitated with advantage, [illegible] with a view of [illegible] into a more [illegible] by [illegible] the [illegible], a necessity in the first instance [illegible]

The [illegible] scale, ascending and descending, ought to be executed in the following manner. Let the pupil [illegible] the [illegible] which is uttered like the a in the English word [illegible] and begin the note very [illegible] gradually in the full power of the voice, and then as gradually diminishing it to the softest sound. The mouth must be opened rather wide, a little [illegible] and kept steadily in the same position till the note is ended for it is evident that the size of the aperture through which the sound issues must alter the character of the sound, even if it do not affect its tone or pitch, and a variation in the tone during the production of a note is always bad; the *quantity* but not *quality* may change. This method ought to be applied to every note in the scale, going on to the second octave, and descending as soon as the voice has reached the extent of its compass, taking care not to strain it beyond that compass.

In all voices the upper notes are formed by using what is called *falsetto*, or *voce di testa*, which we may translate by the words *head-voice*. This term seems to imply that the voice comes from the head:

but the fact is, that all falsette notes are produced by an action in the upper part of the throat, and the tone is sensibly felt in the head. The pupil must, while practising, employ her whole strength, since this is the only means of acquiring command of voice. The high notes will at first be harsh and shrill, and can only be rendered soft and sweet by continued practice, until which, they are wholly unfit for chamber singing. The power of singing soft, and at the same time of giving *tone*, is one of the best qualifications of a singer, and can be acquired by first practising with the full power of the voice.

The singer, in practising the scale, should discover where the chest (or natural voice) ends, and learn to unite it to the falsette, so that no breach or striking dissimilarity between the two voices may appear. The falsette will require to be strengthened, and at the same time the cultivation of a sweet and pure tone carefully attended to; for as we have just observed, the agreeable quality of all high notes depends upon cultivation, since there are few voices which produce them naturally.

Particular attention should be paid to taking the breath. A long note cannot be held unless the lungs are fully inflated, and this is equally important in a succession of short notes, because a frequent inhaling disturbs the smoothness of the performance, and gives an idea of exhaustion which is both painful and destructive of effect.

In practising, the pupil should open the chest by throwing back the shoulders and raising the head, so that the action of the throat, as well as of the lungs, may be unimpeded. The breath should be very deeply inhaled *before* the note is commenced, and should not be emitted rapidly with the sound, but gradually, and in a restrained way, rather than exhaled quickly. By this

means a command of the breath will be acquired, and the singer will never be, or appear to be, distressed, but will have the power of duly apportioning the quantity of force she may be called upon to use, and of applying it where and when it will be required. When the voice has become tolerably steady, and the tune certain, it will be necessary to learn to unite notes; and this may be done by proceeding from one note to the next in a breath, or at intervals of a second, third, fourth, fifth, and so on.

The first note should be commenced soft, gradually swelled, and when it nearly reaches the loudest point the next note taken, and the voice diminished. In passing from one note to another, whether slowly or rapidly, that union should invariably be observed which the Italians designate by the term *legato*, *tied*. This quality is essential to a singer. It may best be attained by the practice of the diatonic scale, pushing the voice from note to note, in ascending throughout the octave, and increasing in loudness; in descending, by sliding the voice from note to note, and decreasing the sound: the rapidity should be increased in proportion to the progress of the student, but all first essays must be slow. The times for breathing will also vary in the like proportion. And here we would caution the singer against changing the syllable, or altering the position of the mouth when executing rapidly; it is a defect which commonly obtains either from carelessness, or from an idea that the execution is thereby facilitated. It may be imagined, that as, in singing words, a constant change of syllables occurs, it is therefore needless to guard against an event which must necessarily take place: every finished singer, however, knows that words may be made articulate, and yet be kept subservient to tone, and that the latter is first to be steadily acquired.

For this reason the voice should be first practised on one and the same syllable.

When the pupil can execute a slow scale, in which each note has the same character of tone (allowing for the modifications caused by a difference of pitch or height), and in perfect tune, with the power of beginning and ending it either loud or soft, and a quick legato scale, possessing the same characteristics of unvaried tone and correct tune, much has been done towards the formation of a singer; at least, the chief mechanical difficulties are overcome. Half an hour a day, regularly and well employed on the best means, will be sufficient for the amateur, but we would earnestly recommend that the voice be used in no other way until good habits have been firmly fixed, otherwise the process of learning to sing will not be unlike the process of Penelope's web, all making and unmaking.

Exercises for the voice (and these are very simple) form the next step: they consist of ascending and descending scales, beginning on the key note and ascending to the octave or the twelfth, and scales of shakes and turns. They also should be practised on the syllable *a*, with the same cautious attention to the purity of tone, correct intonation, and legato execution; taking the breath without effort or noise, yet never suffering it to be exhausted. The pupil, when able to execute these well, will be sufficiently accomplished in the art of execution, for all the demands of a private singer.

Attention should also be paid to the increase or diminution of sound, whether upon one or a succession of notes, giving the loud parts without violence, and the soft with the distinctness of an audible whisper. Contrast is as necessary in singing as in painting, but it is seldom required to be violent; this character belongs

to the expression of strong passion rather than sentiment, and is more suitable to the theatre than a private room. The gentleness and strength, softness and firmness, which combine to form the basis of an admirable female character, are also the best characteristics of her vocal efforts; and the same good sense and judgment which are necessary in her general conduct, must also be applied to singing.

In the acquisition of great execution, the student must be guided by the time which she can devote to practice. It is decidedly an ornamental part of the art, and, when properly applied, a valuable and powerful adjunct of expression. But it is not, like tone, an essential. Voices which are naturally flexible acquire execution easily, while thick and heavy voices move with difficulty, and demand more labour. While we advocate singing as an ornament to domestic life, and as a means of enjoying and bestowing pleasure, we admit that it ought not to engross the time which is due to higher employments or necessary duties, and that the pupil must determine upon how much time she can properly devote to singing, and regulate her studies accordingly. The mode of practice, and the energy of the learner, will convert minutes into hours: half an hour daily will scarcely be deemed too great a sacrifice; and we boldly assert that this is time enough when coupled with regularity and ardour, to produce an agreeable, and, where nature has been bountiful, an accomplished singer. The quantity of the attainment being so regulated, the pupil must attempt no more than it is probable she can acquire: the ornamental part of the art must therefore be the last considered. The essentials are tune, tone, the expression, which results from the singer's capability to make the voice perform her intentions and con-

ceptions, and the power of producing the precise quality of tone which will best express the various emotions of joy, sorrow, love, anger, disappointment, or calm delight. In plainer language, we may say that the pupil must learn the simple means of expression, and then the power of applying them. Until these are acquired, she has no pretension to be styled a singer at all; and when they have been obtained, it depends upon opportunity and other circumstances whether the acquisition ought to be carried any farther.

A certain quantity of practice is necessary to retain all knowledge; a little more than that quantity will enable us to extend our knowledge or attainments. All things either retrograde or advance, and those persons only who understand the value of minutes actively and rightly employed, can conceive how much may be done by the regular application of a short time daily; and most particularly is this the case in singing. We say this to encourage those whose wishes go beyond their apparent means, and whose natural powers are good.

Having thus described the course of study necessary to acquire the first principles of the art, we proceed to the adaptation of words to sound. It is a rule that pronunciation must be distinct, and free from vulgarity or affectation; the inaccuracies of dialect are even more disagreeable in singing than in speaking. It must be perceptible to every one that there is a melody that belongs to each country, as well as a peculiarity of pronunciation; this character of speech will also impart itself to the tone of a singer, if not guarded against.

Though distinct utterance is essential, the pupil should be on her guard against that sharp pronunciation which separates the speaking from the singing, so that the words appear to come upon the ear uncon-

nected with the tone of the voice. If words be clearly begun and perfectly finished, they will fall distinctly upon the ear, and will neither impede nor be impeded by the tone. A clear and finished enunciation, when not carried to excess, also imparts a general finish to tone and manner. The tongue must be held rather back in the mouth, and the lips not suffered to hang loose, or they will make the pronunciation, as well as the tone, thick and indistinct.

Attention should also be paid to the meaning of the words, to their accent, and to the rhythm and sentiment of the poetry; for unless the sense be ascertained, the right expression will be wanting, and every singer is expected to unite her own conceptions with those of the composer. As an actress studies her part, adapts her voice and actions to the emotions described by the language, so should the singer comprehend and feel the poetry, and apply the tone, which is her vehicle of expression, to convey the sentiment of the words which she utters.

Recitative, as the term itself implies, approaches more nearly to speaking than to singing: it is commonly so written that one note falls to each syllable; it requires more of striking enunciation, and less of singing, than the performance of an air; and some compositions (Handel's more especially) call upon the performer for the feeling and elocution of an orator, rather than the qualities of a singer, since she is neither limited by time nor rhythm, but solely by the accent o the words themselves. It is therefore in recitative especially that the elocutionary defects of the singer are detected; and it is consequently the best exercise for the attainment of articulate and finished pronunciation. But in singing an air, the speaking must

blend so entirely with the tone, that although the audience may be able to hear every word, yet the speaking must be only as an adjunct. The poetry ought not to be the prominent part of a song; the pronunciation, as in reading, should be articulate and free from vulgarity or affectation. There is a standard which all educated persons are supposed to possess in speaking, and to this they must refer in singing. In taking breath, the singer must endeavour not to breathe in the middle of a word (unless it be before a passage of execution), and also not to break the sense of the words or the accent of the melody. The singer should not change the vowel or syllable upon which she may have to hold a note or execute a passage, since it will detract from the beauty of articulate speaking, as well as from correct tone.

As to the ornamental part, professional singers are expected occasionally to alter or add to the notes set down in a melody, for the sake of novelty and variety, and also for the purpose of exhibiting their peculiar attainments, or their invention and imagination. The nearer an amateur approaches professional excellence, the more highly is she estimated; and this custom is consequently practised by the former where music is highly cultivated. It is obvious that, in order to create new combinations of notes, the mind must be stored with examples, and possess the power and habit of invention; and in order to apply them tastefully and appropriately, there must be a perfect understanding of the style of the composer, and of the character and expression of the composition. All this information and ability presumes an acquaintance with the science of music, an intimate knowledge of style or a wide

and extensive reading in the works of various masters. There are, however, some persons with retentive memories, quick apprehension, and refined feelings, who can remember and apply ornaments appropriately and effectively. But these are exceptions, for this capability is generally the result of study, and requires more time and labour than singers can commonly bestow. There are some graces which are indispensable, and call for no such exertion, nor such expenditure of time, but only patience and industry. The shake is one of these. It should be first practised on the middle of the voice, beginning slow, and gradually increasing the velocity. A perfect shake is rapid, but distinct, liquid, smooth, and full of tone. In old English music it almost invariably terminates every composition; the Italians use it more as a passing grace, either very slow or very quick. The singer ought to be able to make a shake on every note of the voice; but though essential in the middle, it is not often required at the extremes of the compass. It demands some labour and more patience on the part of the pupil, but is an indispensable ornament to an English singer, and well worth the trouble of acquiring.

The mordente, and the turn, both plain and inverted, are other necessary graces, requiring liquid tone and distinct but legato execution. Their application, where not designated by the composer, must be regulated by the sentiments of the passage to which they are affixed; and their expression may be varied, and a new character given by the employment of different accentuation and tone. A slow inverted turn, though composed of the same notes, bears a totally different expression from a quick turn; and the accent falling upon any one

of the four notes will again change its meaning. Excellence in these minor points is derived from the mind: it is the intellect working with mechanical means which raises artists of every description above the mass. We cannot, therefore, urge too strongly upon the young vocalist to exercise her understanding at the same time that she practises her voice and her fingers.

We will endeavour to describe a more modern ornament of Italian origin for which we know no name, but which is full of elegance and feeling. It is generally used at the end of a musical phrase where the same note is repeated, and it consists in a gentle glide to the third above, which last note is just touched, and the next note descending dwelt upon more at length, ending upon the second note of the original phrase, for instance, *g, b, a, g:* when properly executed, it resembles a sort of gurgling sound; and when applied in pathetic passages, requires little effort to imagine it a sigh or gentle sob. When given with more boldness it confers dignity, and when lightly executed it imparts a playful character.

The appogiatura is another addition, the use of which calls for the discretion and judgment of the performer. It is too common to need description; it requires legato execution, and may be varied in rapidity, accent, and tone, according to the expression required. The Italians almost invariably introduce the appogiatura, when the same note occurs twice in succession: this frequently happens in recitative, when the rule is that the singer instead of taking the first note as it is written introduces the note above, or the half note below, as an appogiatura.

Another modern application of this ornament consists

in repeating the appogiatura a second, or even a third time before taking the note which it precedes. The execution of the repetition should be soft, like a throb of the voice, if we may be allowed the expression.

The portamento, or carrying the voice from one interval to another, comes perhaps under the head of legato execution. It consists in sliding the voice through the intervening notes. Italian singers rarely omit so to connect the notes: in English music it must be employed with caution, and under all circumstances it ought to be used without violence; otherwise, it has a ludicrous effect, and resembles a caricatured imitation of the Italian manner.

It has long been the fashion to conclude English songs with a cadence, why, we know not, unless it be to give the singer further opportunity of displaying his execution and invention. The Italians have better taste, and although they may be justly accused of ending all their arias alike, yet this is a less obvious absurdity than commencing a long roulade upon a word of no meaning, when the sentiment has drawn to a close, and passion has vented its fervor. The singer has every opportunity in the course of an air to show her taste and ability, and these are not unfrequently best displayed by a sparing rather than a redundant use of ornament. It is desirable to possess the power of execution, but equally so to employ it judiciously.

We have now treated of tone, execution, elocution, ornament, and expression. We come next to style, or the peculiar mode in which all these means are employed. It seems impossible that a succession of notes arranged to certain words should be so performed by two or more persons as to bear a different character,

and yet that each performance should be equally successful. This is undoubtedly the case in acting. Actors give the same passage different readings, and accompany it by different action, yet each may claim equal excellence; how else, indeed, should there be variety or novelty, the two great charms of life? So is it with singers. No two voices have the same character, and although trained by the same master and in the same method, yet they are totally dissimilar; and as no two minds are alike, the nature of the intellect gives other varieties which are manifested in conception, imagination, and feeling. For instance, one singer will be distinguished for tenderness, another for dignity, a third for pathos. One will employ mere beauty of voicing, another great power, a third will adopt contrast, a fourth delicate or powerful execution. Some will introduce appropriate but far-fetched ornaments; others, when the character of the words is not decided, will alter the time of a composition from quick to slow, or the contrary, so as to surprise by novelty, or to gain the opportunities of displaying some acquirement or natural gift peculiar to herself. It is also to be remarked, that different kinds of compositions have each their peculiar character. The music of the church in all its subdivisions, chamber music in all its varieties, such as the canzonet, the air, the bravura, the ballad, &c., are distinct species which call into action the same qualifications, but demand an application fitted to the particular nature of the composition. There is also some regard due to the age and country of the composer. Attention to these points implies a general knowledge of the art and its history, and requires more than mere mechanical excellence. All these differences constitute style;

for as they belong to mind, or the attainments resulting from long and diligent study, they will manifest themselves in every attempt, however extensive the field upon which they are exerted. It follows, therefore, that style is a consequence of sedulous practice united to a good understanding, and the experience which comes of hearing and observing; and hence it is that amateurs seldom acquire style. It is lamentable how little the reasoning powers are exercised and cultivated in female education; were it otherwise, the time and money now wasted upon accomplishments would be employed to the advantage and pleasure of the pupil, and of all who expect from her the fruits of those long years which she has expended on her studies.

Those parents, then, who desire their daughters to become singers, must first ascertain how far nature has lent her aid; next, what degree of excellence it is probable they may attain, and whether the talent is to be employed as a means of profit or of mere amusement; and, finally, how much time they can rationally spare from duties and studies of more importance. The next step is to adopt the methods most likely to secure the ends proposed. An honest and capable instructor is essential; but an explanation, such as we have endeavoured to convey of the best method, although necessarily general, will materially assist the pupil, because she will understand why that method is desirable, and being thus led to reflect upon the subject, she will be more likely to apply it advantageously. When some progress in the art has been made, hearing the best models frequently, listening with the mind as well as with the ears, will do more than many lessons carelessly given and thoughtlessly received.

THE YORKSHIRE INSTITUTION FOR THE DEAF AND DUMB AT DONCASTER.

BY CHARLES BAKER,

Author of "A Teacher's Lessons on Scripture Characters."

(From the Quarterly Journal of Education, No. XIV.)

In a report of the Birmingham Institution for the Deaf and Dumb, recently published, appeared a statement that the number of deaf-mutes in England and Wales alone was not less than eight thousand. This statement was noticed in many of the London and provincial newspapers, and was received in some parts of the country with discredit. From various sources of information, whose accuracy can no longer be disputed, it is ascertained that the proportion of deaf and dumb persons in South Britain is one in seventeen hundred, which, with an aggregate population of fourteen millions, fully establishes the correctness of the Birmingham Report. Returns, in fact, have been procured in various parts of the kingdom on which this proportion is founded. The proportion throughout Europe is $\frac{1}{1565}$.

With such a fact as this resting on unimpeachable evidence, the situation of these helpless beings, in respect to moral culture and improvement, becomes a subject of important and anxious investigation. The difficulty of addressing instruction to minds shut out from the ordinary means of intercourse entails miseries upon this unhappy portion of the community which

cannot be averted by the most tender parental solicitude.

Cut off from almost all communication with the world, the mind so bereft of companionship is apt either to sink into imbecility or to become subject to the development of headstrong and hurtful passions. Without the checks of knowledge and religion, and too frequently spoiled by injudicious indulgence, the temper grows ungovernable, and fits of violence and spleen give a frightful and melancholy aspect to the character. This is the common condition of the poor deaf-mute, without the benefit of that peculiar training which he can rarely receive in the bosom of his family; and it is from the consideration of this fact that public institutions, whose object is to supply by other means the loss of those organs through which knowledge is commonly conveyed to the mind, have received such splendid encouragement from the enlightened and the charitable, in all Europe, in North America, and lately in British India.

Most truly has Dr. Johnson described deafness as the "most desperate of human calamities." With what class of persons can we compare the uneducated deaf and dumb? Not with the idiot, nor the maniac: their deprivation is that of reason, a deprivation frequently more afflicting to their friends than to themselves. In the very possession of reason, the deaf and dumb are more pitiably afflicted than these outcasts, inasmuch as they have a sensibility to something higher than they can attain, a desire never to be gratified, a light within which flashes and gleams at times for a moment, until it languishes for want of something to feed the flame. It has often been said, that blindness is a greater misery than deafness. The reason for this popular opinion is sufficiently

obvious. Blindness claims a readier sympathy than deafness; the one is silent and often retiring, the other can tell its tale of calamity, by which a mind endued with sensibility cannot fail to be deeply interested; nor is it until the contrast between these two calamities receives more than a superficial attention, that the heavier privations of deafness are discovered and understood. We then perceive that the ear is a ready inlet to the mind of the blind, and that a language is already framed in which the blind man can communicate his ideas, and by means of which the most useful parts of knowledge can be conveyed to him in return. But the deaf-mute has acquired no language. A few rude signs, expressive of his physical wants, are the extent of his commerce with his species, until his mind has been developed and informed by a long and tedious process of instruction, through the medium of the eye; and this instruction, in the first instance, must be simplified to the very last degree. Even when educated, the deaf and dumb person can never occupy that station in social life which is occupied by the blind. Every topic of interest is easily communicated to the blind; but to the deaf, much of the enjoyment which results from mingling with society is unappreciated, because unfelt,—unfelt, because he is often a stranger to the more refined pleasures of social intercourse. We speak of the deaf and dumb as they have been and as they are generally educated; we by no means wish to pronounce it to be impossible to fit them for enjoying and even for being useful in society. We know that much has been already done, and that more is being done at present than was ever attempted before; and we confidently anticipate the time when a due proportion of the deaf

and dumb will be raised from their forlorn condition to an eminence which will be at once grateful to them and honourable to their instructors. We have spoken of the difficulty of approaching their minds, compared with that of communication with the blind; we see that this difficulty almost vanishes in the case of the latter; while in that of the deaf it cannot be overcome but by the most patient and persevering labour.

The magnitude of the obstacles to the mental cultivation of the deaf and dumb was doubtless the consideration which prevented many philosophical minds from encountering the labour, even after they had ascertained the practicability, of such cultivation. The general spread of inquiry, especially during the present century, has brought more accurate information respecting the state and numbers of the deaf and dumb; the result of which has been to call forth the sympathy of the public for their relief: and although the provision which is at present made for them is by no means commensurate with the object to be accomplished, there is reason to expect that more ample measures will soon be taken for removing as far as possible the moral and physical evils attendant upon this deplorable calamity. Benevolent minds have been awakened to this duty in our country, among whom the late Rev. John Townsend, the founder of the London Institution, deserves especial notice, as the first individual who effected the extension of education to the indigent deaf and dumb. The imitators of this good and great man in other parts of the kingdom, whose names are recorded in the memory of some hundreds of pupils, are the late Dr. de Lys, of Birmingham; Dr. Orpen, of Dublin; Mr. Bateman, of Manchester; and Mr. Comer, of Liverpool. In Yorkshire, where an

institution for the deaf and dumb has sprung up within a very few years, may be found another gentleman whose name must be ranked with the above benefactors to this class of sufferers: it is the name of its first promoter and honorary secretary, the Rev. W. C. Fenton, whose benevolence and untiring zeal have given it prosperity as well as existence.

As this institution, from its locality in a populous and wealthy district, and the success which has attended its establishment, will furnish us with some materials suitable to the purpose we have in view in this paper, we propose to take a survey of its origin, history, and internal management, and to explain the system of instruction there pursued. One of our objects in doing this, is to diffuse a knowledge of all useful experiments in education, in order that similar institutions may from their commencement be assisted by the experience of others who have gone before them, and so be enabled to profit by what has been found successful, and warned on those points wherein their predecessors have failed.

In the early part of the year 1829, the attention of the county of York was drawn to the establishment of an institution for the education of the deaf and dumb. This institution originated, as we have stated, with Mr. Fenton, a clergyman residing in the neighbourhood of Doncaster, who soon succeeded in bringing the object under the notice of the principal nobility of the country. The Archbishop of York, the late Earl Fitzwilliam, the Earl of Harewood, and the present Earl Fitzwilliam, were among the earliest patrons of the projected institution. Each of these noblemen gave liberal donations; that of the late Earl Fitzwilliam was 500*l*. So patronized in its commencement, the object met with support

in all quarters wherever applications were made, and large sums of money were voluntarily contributed to its funds. At a public meeting held in Doncaster, in March, 1829, which was kindly attended by Mr. Vaughan, the master of the Manchester Institution, with some of his pupils, in order to show that the education of the deaf and dumb was not a visionary idea, a committee was appointed, and it was at once determined to open an institution as soon as the preliminary arrangements could be completed. In the mean time it was thought desirable to obtain for the intended institution the sanction of the Grand Jury, then about to assemble at York. By means of an active member of the committee, the subject was introduced to those gentlemen,—a proceeding which was altogether judicious, as the institution was thus made known to that part of the community from which it was to derive much of its permanent support, namely, the county gentry. At this period the restoration of York Minster occupied the public mind, and the committee thought proper to defer to the suggestions of the Archbishop, and to commence the institution in rented premises, rather than to solicit donations for the erection of a suitable building.

A part of Eastfield House, on the north side of the Doncaster race-course, was therefore obtained, and in November, 1829, fifteen boys were admitted. The institution was placed under the superintendence of the present head master, Mr. Charles Baker. By having spent some years as assistant master at Birmingham, under M. du Puget, who had been educated by Pestalozzi, the system of that eminent man became in some degree familiar to him. At the same time Mr. Baker does not profess to conduct the Yorkshire Institution

on Pestalozzian principles. He acknowledges himself to be too little acquainted with those principles to make any such pretensions, though aware of their value, and of their applicability to a great extent in the education of the deaf and dumb.

The Yorkshire Institution was not founded altogether on the principle of a gratuitous provision. A sum of 2*s*. 6*d*. per week is required from the parents of each pupil, or from the parishes to which they belong. The income of the institution from all sources was about 400*l*. per annum at its commencement. The means by which the income has been increased to its present amount deserve particular notice, as the same means have since been employed with similar success by some of the other provincial schools for the deaf and dumb: we allude to public examinations of the pupils in neighbouring towns. Before the Yorkshire Institution had been established six months, several public examinations had taken place in various divisions of the county. In the more populous towns a lecture was delivered explanatory of the condition of the deaf and dumb, and the methods by which their minds and affections might be cultivated; but the exhibition of the children themselves, and their acquirements, even in the short space of time mentioned, were always found the best exemplification, as well as the most efficient proof, of the excellence of the charity. After these examinations, no one doubted that deaf-mutes had powers capable of improvement; and this was sufficient. Subscriptions and contributions flowed in from every quarter.

In July, 1830, the number of children under instruction was increased to thirty-two,—twenty boys

and twelve girls. The annual funds at this time amounted to about 800*l.*; and the building fund was considerably augmented.

The purchase or erection of a suitable edifice for the permanent establishment of the institution occupied the committee during the year 1831, at the expiration of which it was finally determined to purchase the whole of Eastfield House, which was offered to them, along with three acres of land, for 3000*l.* No site could have been found more open and salubrious. A more convenient building might have been erected, but it would have been at a great additional expense, which might have crippled the operations of the institution for years. The whole outlay amounted to 3200*l.*, including the alterations, of which sum about 360*l.* was advanced from the general fund to be restored at some future period. The great desideratum in the building is a room sufficiently large for a school-room. With such an addition to the premises, the accommodation would be ample enough for one hundred children. As soon as possession of the above purchase was obtained, the number of children was increased to fifty. The annual income arising from subscriptions alone then amounted to little short of 1000*l.* This rapid increase of funds had not been obtained without great exertions; among which must be particularly specified the periodical examinations of the pupils.

Another advantage attending such examinations in different towns, is the publicity given to these institutions, by which parents who might otherwise never know the fact, are informed that such a public provision exists for the mitigation of these organic defects. Even with this publicity, instances are sometimes discovered

of deaf and dumb persons having grown up without instruction, even in the neighbourhood of such institutions. The recurrence of such cases calls for some further exertions on the part of the public to disseminate an account of deaf and dumb institutions amongst that class of society who are most likely to want such assistance, and least likely to know where and how to obtain it.

Various causes operate to prevent a larger number of deaf and dumb children from receiving the benefits of education in so populous a county as Yorkshire; out of a population of several hundreds deprived of hearing, and consequently dumb, it must require explanation why no more than fifty children enjoy the benefit of instruction.

1st. None under eight years of age, nor above fourteen, can be admitted into the institution.

2d. A proportion of the deaf and dumb are diseased, and some to such a degree as to be unfit objects for an institution.

3d. Another class whose names swell the statistics of the deaf and dumb are not deaf, but only *dumb*, being idiots.

4th. Those who are not absolutely idiots, but who are palpably deficient in intellect, are not considered proper objects for an institution avowedly supported for intellectual education.

5th. Some parents are so attached to their offspring labouring under physical infirmities, as to be unwilling to part with them.

6th. Many parents of deaf and dumb children who are anxious to secure for them the mental and moral advantages of education, are yet too poor to make the required weekly payment. In such cases the parishes

to which the children belong often defray the entire charge for the clothing and instruction of such children; but in some instances the parishes refuse this aid.

The last difficulty, here alluded to, it has been thought should be removed by a legislative enactment requiring parish officers to defray the expenses attendant upon the instruction and care of the deaf and dumb poor, on the principle upon which a provision is made for other paupers labouring under severe bodily infirmities. The policy of such a measure is perhaps doubtful; but the claims of the deaf and dumb, it is hoped, will not be overlooked whenever the subject of national education is brought under the notice of the legislature. Both humanity and policy seem to dictate but one course to parish officers. If their deaf and dumb are educated, they are surely less liable to become chargeable to the public than if they continue in ignorance, without the power of receiving or communicating information on the commonest circumstances of life. It would be in vain to expect any proficiency in manual labour in these objects of our sympathy while the main inlets to instruction are closed, and their dispositions, like their understandings, for want of culture, produce bad instead of good fruits. Many facts might be adduced to confirm this statement, but it needs no further illustration: uneducated, the deaf and dumb are almost levelled with the brute creation; educated, they are raised to the proper dignity of their nature.

To confirm some of these statements, we may refer to the experience of the Yorkshire Institution. Since its commencement in 1829, seventy-three children have been admitted, of whom twenty-three have been re-

moved. Of this number, *five* were in the institution only a few months, being found so deficient in intellect as to be incapable of improvement, although capable of doing something for their living in manual occupations of the simplest kind. Their friends were advised to put them instantly to such occupations. *Four* remained in the institution about three years, improving to a certain point, beyond which it seemed impossible for them to advance. These pupils were adapted for some of the more ordinary trades. *Four* others had attained an age at which it was thought desirable for them to leave school, particularly as they were capable of earning their livelihood. *Ten* were withdrawn because their parents could not afford to make the required payment of 2*s*. 6*d*. per week, in addition to the loss of the little services rendered by these children in their families, in all which cases the parish officers refused to advance the payments demanded by the institution. In addition to the above number, *ten* other applicants for admission have been excluded from the operation of the same cause; making twenty who in the course of four years have been denied all chance of instruction, from the extreme poverty of the applicants, or the ill-advised economy of the guardians of parish funds. But while it is painful to record such instances of short-sighted policy, it is pleasing to dwell upon those of an opposite nature,—where parishes most cheerfully contribute the necessary means for aiding the education of these children of affliction. Of such enlightened liberality the parish of Leeds affords a noble example. This parish contributes towards the maintenance of the deaf and dumb children belong-

ing to it, in all cases where the parents are unable to do so.

The system pursued in some institutions makes the instruction and board of their inmates entirely gratuitous, but there are objections to this principle of relief, of which one, not the least obvious, is, that parishes are thus relieved of a burden which is properly their own; while, in other cases, parents who can well afford to pay for the instruction of their offspring too willingly receive the boon, which waits only for their acceptance. Fifty pupils, at only 2*s.* 6*d.* per week each (which is the lowest payment, and is required in all cases), produce about 300*l.* per annum—a considerable addition to the funds of any institution which is not over-prosperous, besides which it has the recommendation of being obtained in a most unexceptionable manner. Those parents who can afford to do so, pay a larger sum towards the education of their children, varying according to their circumstances.

The objection which is most strong against the system pursued in the Yorkshire Asylum, is the fact of twenty deserving and proper objects having been excluded from its advantages, while there is room within its walls for their accommodation. When parishes refuse their assistance in such cases of distress, it is a subject worthy of the best consideration how far it is desirable for the committee to deviate from their general rule, in favour of such applicants.

These preliminary observations will serve to throw some light upon the numbers and condition of the deaf and dumb. We now approach the subject of their instruction, the general principles of which have been

already stated in the Sixth Number of the Journal of Education. The ground-work is somewhat similar in most institutions; the end proposed is uniformly the same—to impart language, and fill the minds of the pupils with knowledge. The means pursued to effect this end differ considerably, and these differences form the basis of the various systems.

The natural language of the deaf and dumb is *a language of signs.* To improve and perfect this language, to make it the vehicle for communicating knowledge, and for interchanging thought, has been a favourite object with many instructors. Signs may be divided into three classes: first, natural signs; secondly, arbitrary signs; and thirdly, methodical signs; the last partaking of the character of the other two. Natural signs are the ordinary language of the uneducated deaf and dumb; arbitrary signs have their origin with system-makers; methodical signs have the fault of being the ideas of the teacher, which may be imitated by the pupil without being understood, just as a native of England might repeat after another person the words of a foreign language unintelligible to him. All these signs, more or less modified, are used in the instruction of the deaf. Some institutions adopt arbitrary signs to the exclusion of natural signs; others make methodical signs the means of communicating ideas; some few profess to reject signs altogether; while by others they are employed in a very subordinate degree, to be banished as soon as their place can be supplied, though but imperfectly, by language.

Speech, or *artificial articulation*, is another medium of intercourse with the deaf and dumb, and it is a valuable auxiliary in their education. There are but

few, especially if they are taught early in life, whose vocal organs will not yield to the well-directed efforts of the teacher. As with respect to signs, so there are various opinions among instructors as to the desirableness of making articulation, and reading on the lips, a part of the education of the deaf and dumb. In some institutions speech is rejected; in others it is made the main instrument of imparting ideas; in some it is used only for conveying words; and in others speech is used simultaneously with signs.

The figuring of objects, as in *drawing*, is sometimes made a matter of great importance. It speaks directly to the eye, and may be made of great service during the period allotted for instruction, and in some cases in after life.

Dactylology, or the *finger-alphabet*, is one of the most obvious and important helps in the education of deaf-mutes; nevertheless, there are some schools on the Continent which reject its assistance. *Writing*, which is most nearly allied to the above process of finger-spelling, is used in all institutions without exception; indeed, it seems almost the only vehicle of which all teachers are content to avail themselves: for however some of them may wish to exclude *signs*, yet there will occur instances when their help must be solicited.

The means at present employed at the Yorkshire Institution are *natural and explanatory signs*, *dactylology*, *and writing*. One or other of these means is used, be it observed, for the communication of everything—knowledge in the school—directions out of it; the end in view being to lead the children to understand language—the English language, and to make themselves understood in it. The conductor is favourably disposed

to articulation wherever the vocal organs are flexible, and the pupil shows no unaptness for its acquirement. No acquisition can be more useful if the speech can be made intelligible. But its utility is much greater as a rapid vehicle for the conveyance of lessons to the pupil, than as an ordinary means of communication; the expression upon the lips of the speaker being required to be so much more distinct and full than could possibly be adopted in conversation without considerable care and practice.

Drawing, as an art, has never been pursued in the institution at Doncaster, for various reasons. It would add considerably to the expense; and as most of the pupils are from agricultural districts or manufacturing towns, where drawing is not much in demand, its acquisition would not materially benefit their future life. At the same time much value is to be attached to it as a means of development.

The hours allotted to school are, in the summer, seven hours each day, and in the winter six and a-half; other employments occupy the hands of the pupils out of school-hours, which will be spoken of hereafter.

At the opening of a deaf and dumb establishment, too many pupils should not be admitted at once. In Yorkshire not fewer than ten, and as many as twenty, have been received at one time into the institution. The first admissions into a new establishment ought never to exceed *ten*. These are as many as a master will be able to manage without assistance. After six months, ten other pupils may be added; by which time, with the aid of those who have become initiated, he will control and keep occupied the twenty, with more ease to himself than he did the first ten. Wherever a

large number of pupils is contemplated, a youth of pleasing manners and liberal education would be found useful as an assistant from the commencement.

The curiosity shown by the older pupils respecting the new-comers, on the day of an admission, is often exceedingly entertaining. The various novelties in the school-room, and other parts of the establishment, are explained to them, sometimes with no ordinary pains and politeness, especially if the new pupils show an inquisitive and lively disposition. The elder pupils, warned by past experience that some sullen or vicious spirit may attempt to steal away, keep their eyes constantly upon those of suspicious appearance, to prevent their escape, and give the first intimation of any such manifestation. At the first outset of an institution, the master has to keep a vigilant watch over his inexperienced pupils. At later admissions, he has all the assistance of those who, having passed through the same ordeal, are willing to exercise the necessary vigilance. All the knowledge which the first pupils possess must have proceeded *directly* from the master. As future additions are made to the inmates of the house, knowledge is obtained on various subjects from the intercourse of the pupils with one another, the result of which is mutually beneficial. A pupil coming from a mining district, by the help of his natural signs, is able to communicate ideas on a subject which perhaps the others know nothing about. In return, they who have received only the very elements of instruction are able to repay the new comer with ideas to which he will have been a stranger till that time. This interchange of ideas is encouraged by teachers, for reasons which are sufficiently evident. Besides, as judicious teachers do

not pretend, even in the presence of their pupils, to be more than learners, they will find it very interesting to allow an intelligent pupil to communicate any knowledge which his experience may have furnished. Nor will a discreet instructor fail to express his pleasure on such occasions, even though the subject illustrated be commonplace. But the great benefit resulting from such intercourse with each other and with the teacher is, that the teacher is thereby informed what are the powers of his pupils, and instructed how to turn those powers to account in directing their future education.

No sooner are the pupils received into the school, than the work of instruction commences. Objects are pointed out to them, the names of the objects are written down, and at the same time the objects themselves are described by natural signs. The pupils readily acknowledge a similarity between the sign and the object, but they do not assent to any likeness between them and the written word. It is only by seeing that the object is recognized in the word, not only by their teacher, but by every person who can be conveniently appealed to, that they perceive that '*words*, by common consent,' represent *objects*. This knowledge they attain, not by the medium of any rule, but practically. It would be needless to enlarge upon this part of the instruction of the deaf and dumb, since it is precisely the practice instituted by Sicard, and described in a former number of the Journal of Education.

This method of commencing the teaching of the deaf and dumb appears preferable to their instruction at the outset in dactylology. The acquisition of the alphabet on the fingers, and the formation of the common written letters on the slate, are a dreary task for a beginner,

often taking many days, and in some instances weeks, and even months, to achieve; while Sicard's plan is full of life and interest, and not only operates upon the mind, but also keeps the body actively employed. At intervals the children sit down to their slates to imitate the forms of the written words which have been made known to them, and in very many instances they learn to write short words as soon as they would learn to make letters. With regard to the finger alphabet, it is not necessary that time should be spent upon it, either by teacher or pupil, except in the case of very dull or very volatile pupils; generally they will learn it by their constant communication with the more advanced classes. Three out of fifteen pupils admitted into the Yorkshire Institution, last August, had to be *taught* the finger alphabet by personal attention; the other twelve *learned* it out of school hours by associating with the elder pupils. In the selection of words for beginners two rules are observed: 1st, that they shall be names of *objects with strongly marked characteristics*, so that the signs for them may be easily recognized; 2nd, that the words shall be short, in order that the combined letters may be better remembered, and more easily imitated on the slate. Such words as the following are examples of first lessons; *ass, bee, sun, fox, owl, frog.* Whenever the real object cannot be exhibited, a picture of it is placed before the class.

The exercises in this first step of instruction are very animating. We will now suppose that some twenty or thirty words have been acquired. The teacher has a black tablet before the class, on which the words are very distinctly written with chalk, and the objects themselves, or pictures of them, are around him. The effect

of the lesson now depends upon the expressiveness of the signs which pass between the teachers and pupils. When speaking of a *sign* or *signs*, we mean shapes of objects figured in the air, denoting the size and other qualities, the motions and positions of objects. The teacher makes a *sign*, we will suppose of a *frog*, in which sign its shape and its mode of leaping are described. A child points to the *object* or its *picture*. The teacher points to the *picture* of this or of some other object; another child makes the *sign* for the object. The teacher points to a *word* upon the tablet; a child points to the objects it represents, or to the picture of it. The teacher points to an *object*, or the *picture* of one; a child points to the *word* which represents it. The teacher makes a *sign*, requiring a child to point to the *word* which stands for it; he then points to a *word*, requiring the child to express it by a *sign*. Might not much of this, or even the whole of it, be introduced into our infant schools? When the finger alphabet has been acquired, a similar exercise to the above is introduced in connexion with spelling the words, the teacher sometimes spelling, and the children signing, or the teacher signing or showing objects, and the children spelling or writing.

All these modes of exercising the pupil are good. After the teacher is satisfied that the child comprehends that pictures and signs represent objects, and that words again represent such objects, he goes on teaching other substantives until the pupil is familiar with the written representation of most common things. The plan by which this end is attained differs in different institutions. That recommended by Mr. Baker is to class all the objects in the material world under two divisions—

NATURE and ART; the former to be subdivided into animals, vegetables, and minerals, and these again into genera, species, and even varieties of the larger animals. Under the division ART, the subdivision will comprehend all trades and artificial productions. It will by no means be necessary to retard a pupil's progress, the first or even the second time of going through the series of lessons, by teaching words of unfrequent occurrence. Such words may be conveyed to the pupil at a future period; or if the lessons are accessible to him, either in manuscript or in a printed form, he will probably acquaint himself with them; and though these lessons may be produced in a scientific form, they may be kept free from scientific terms. In the pictures of *trades*, which should commence with the most ordinary and advance to the most complex arts of life, every object made by man will be brought under the eye of the pupil in its proper place. Tables and sofas will be seen in the shop of the cabinet-maker; knives, razors, scissors, &c., in that of the cutler. Such a series of pictures would be a perfect treasure for the instruction of the deaf and dumb, and would be scarcely less available in the National, Lancasterian, and Infant systems of education; and indeed in the early education of the children of all classes. A good set of pictures of natural objects is also much wanted, which should be executed as far as possible on a scale showing their relative proportions. The lessons connected with trades would commence with the names of the materials used, the articles manufactured, and the principal tools employed. A copious list of substantives would be thus furnished. The next lesson, on the properties of such objects, illustrates the adjective. The nature of neuter,

active, and passive verbs, is then explained, and afterwards the more difficult parts of language. A similar series of lessons would accompany the pictures on natural history. Many names of substances would occur in the course of such a series of lessons which no explanation could render intelligible. Specimens of such things should therefore be procured, if practicable, for the elucidation of the lessons. At the Yorkshire Institution there is a small collection of animal, mineral, and vegetable substances, for this purpose; and if children are to gain ideas as well as words, such a collection should be attached to *every school*, particularly of minerals, and other substances which cannot well be represented by drawings. We have dwelt upon this part of our subject, because we think it suitable for general adoption.

Grammar is best taught by a series of lessons so framed as to illustrate all the parts of speech, and to comprise every class of words in the language. This method is preferable to the dry definitions of grammarians, which never convey any valuable knowledge to children, because they are not understood.

After the specific names of objects have been conveyed to the pupils, *generic* words are taught; these are more difficult than the preceding. It is not easy to make children generalize, unless by means of exercises which have this particular object in view. Tabular forms similar to the following are employed at the Yorkshire Institution:—

Horse - beast - animal - creature - being - object &c.
Raven - bird - animal - creature - being - object &c.
Shark - fish - animal - creature - being - object &c.
Viper - reptile - animal - creature - being - object &c.
Wasp - insect - animal - creature - being - object &c.
Elm - tree - plant - creature - being - object &c.
Heath - shrub - plant - creature - being - object &c.
Gold - metal - mineral - creature - thing - object &c.
Chair - furniture - vegetable substance - thing - object &c.
Grate - furniture - mineral substance - thing - object &c.
Hat - clothing - animal substance - thing - object &c.
Bread - food - vegetable substance - thing - object &c.

By these simple means, generic terms are acquired, and many of the children so taught have a clearer understanding of the value of such words than many who can both hear and speak.

The teaching of the indefinite article, the formation of the plurals, regular and irregular, and the office of demonstrative and possessive pronouns, and cardinal numbers, immediately follow the names of objects. These are not taught in an isolated and unconnected manner; they are combined with the words which have been previously taught, care being taken that the idea is conveyed simultaneously with the conventional sign

for it. We may suppose a handful of peas to be taken into the school-room, (objects which the pupils do not commonly see about them being more attractive than slates, pencils, &c., which are always at hand;) one pea is separated from the rest, to which the teacher calls the attention of the class; he writes upon the tablet *a pea*, shows the pea and holds up one finger; he next shows the other peas, or part of them, and writes *peas* opposite to the singular, thus:—

a pea	peas
a dog	dogs
&c.	&c.
my slates	our slates
&c.	&c.

When the plural is written, instead of holding up one finger, he holds up all the fingers of one hand, and moves them backwards and forwards, to express that there are many. If there are several children in the class, it is probable that he will be anticipated in this latter sign by some one of them, who will thus show that he has been accustomed to such a sign, and perfectly comprehends it. The teacher will proceed with other examples, all of which will be written on the tablet in succession. A short time serves to convey this idea to a class. Irregular plurals are so arbitrary in their formation, that they can only be taught by distinct explanations, and retained by an effort of memory. Some curious but at the same time pleasing mistakes are committed by every succession of new pupils in learning the irregular plurals—pleasing because they show how soon children begin to reason from analogy.

After having been shown that the *oo* in *tooth, foot, goose,* make the plural *teeth, feet, geese,* they will write the plural of *book, beek;* and discovering that *mouse* changes in the plural to *mice,* they will give *hice* as the plural of *house,* making regular plurals irregular, and *vice versâ.* These trifling difficulties are soon removed by watchful attention. Cardinal numbers are taught by the arithmometer or bead-table, and by other visible objects. In this branch of learning the pupils have to remember the combinations of letters, as well as the figures which express the different numbers; and, as a simple exercise in number, they are set to count the panes of glass, the nails, &c., about the school-room, or the grains in a handful of corn.

Adjectives, ordinal numbers, neuter verbs, and active verbs, are the next stages in the tuition of the deaf. The nature of the *adjective* may be conveyed to the mind of the pupil in a variety of ways. Sicard's ingenious plan is adverted to in a former article on the Education of the Deaf and Dumb. A process somewhat similar is employed in most institutions. The intuitive principle is of great advantage in every part of instruction where it can be brought into action. The teaching of adjectives is much helped by contrasts. Two objects of the same name, but of opposite qualities, are put before the eyes of the pupil, who is required to express by signs their distinctive properties. As he describes these, the words answering to the description are written down on the tablet along with the name of the object. Through a long list of adjectives the same course is followed; and it is pleasing to observe the growth and expansion of the mind, in the production even of such disjointed fragments of sentences as *a thick*

book, a thin book ; a long ladder, a short ladder, &c. The ordinal numbers are treated as other adjectives; but they are never acquired, at least in this institution, without being confounded for a considerable time with the cardinal numbers.

The *participle of the neuter verb* is the next technicality of language which is to be made intelligible. As in the former lessons, the first examples of participles are taken from real actions. There would be some danger of confusing the mind of the pupil here, if care was not taken to show him, at the commencement, the difference between the participle and the adjective, viz., that the former is a mere state of being, liable to change ; while the latter is a quality inherent in the object. If the distinction be not made perfectly clear, such expressions as *a running horse, a flying fly*, would be produced instead of *a horse running, a fly flying*. The participle of the neuter verb is next connected with the verb *to be*, which produces a short sentence, in which the auxiliary is presented in its simplest form, *that horse is eating, this cow is standing.* Sentences are also framed in this stage of tuition from the tabular form of *generic names* by the insertion of the auxiliary verb, as the *horse is a beast.*

Personal pronouns may be now introduced. *I am a boy, Thou art a man, They are noisy children,* in which the different persons of the auxiliary verb are brought into use with their distinctive pronouns, and the sentences are lengthened by the introduction of expressions which have been previously taught.

Active verbs occupy the next place in the series of lessons. These are not taught as solitary words, but in their connexion with words and phrases already

known. The *object* intended to be acted upon is before the class; the *agent* or *subject* of the verb is also before them. Sentences are *acted* before them, something like the following: *This boy is stuffing a bird, The second class are writing their lessons, That tall man is whipping a little dog, I am holding a pointer,* &c.

The *order* in which these sentences should be conveyed to the pupil by signs, is an interesting object of inquiry, as it involves the question of the order of the natural language of the deaf and dumb. That adopted in this school is to present the agent, with its modifiers, if any, first; the object, with its modifiers, second; and the verb, with its auxiliary, last. Thus a sentence would be communicated in the following order:—

1st Sign	2nd Sign	3rd Sign
Man tall that	dog little a	whipping is
That tall man	a little dog	is whipping.

which is ultimately written by the pupils according to the regular structure of our sentences.

What we have hitherto described is the work of the first year at the Yorkshire Institution for the Deaf and Dumb. Out of twenty-two children who were received in August, 1832, seventeen went through a similar course to the one described; in addition to which they learned to write a tolerably plain hand on a slate, the object with regard to writing being, not to waste time in making the children fine writers, but to obtain a plain and rapid handwriting. Indeed, it may be said that

the children are not taught writing; they are left to learn it.

It is an important inquiry, involving a principle of some consequence, whether it is advisable to supply the pupils with a large stock of words indicating objects, qualities, and actions, or whether it is better to proceed with a small vocabulary, without postponing the chief point of early instruction, namely, connected sentences. In the Yorkshire Institution the latter principle is pursued, on the ground of its being important that the pupils should be early brought to express themselves in sentences, and that it is the most simple mode of proceeding.

It would be curious, were there space in this paper for such an analysis, to present to the reader a picture of 'the wild waste not quite without a flower' of the deaf-mute's mind before it is brought into cultivation. In many respects, not in all, it is analogous to an infant's. In the process of acquiring knowledge the same course which seems natural to one may be pursued with the other. Infants, for instance, who are endowed with hearing, although they commence speech by uttering single words, soon adopt connected forms of expression. They do not adhere to certain classes of words, but they use all words which they are in the habit of hearing. Though it may be necessary to instruct the deaf and dumb in words so classed as to show them their different use in language, it is by no means desirable that they should be confined to substantives till they are made acquainted with the names of nearly every common object, nor to adjectives till they have learned nearly all the qualities of such objects. This would occupy much time, and greatly impede their pro-

gress; while on the other hand, if they are speedily brought to forms of expression complete in themselves, and pregnant with ideas, the delay of explaining a difficulty now and then as it occurs will be trifling and unimportant.

The lessons on which the pupils are exercised admit every variety of subject, and are so constructed that physical facts and operations are taught at the same time that the children are acquiring language. A pretty accurate conception may be formed of them from the following skeleton, numbered in the order in which it is taught. The particles and connectives are explained before they are embodied in these lessons.

1

Horse,
Mare,
Pony,
Foal,
Hunter,
Hackney, &c.
} Beast, Quadruped, Animal, &c.
Head,
Ears,
Mane, &c.

2

A horse, two horses,
A mare, many mares,
A pony, three ponies, &c.

3

A shaggy mane,
A fine mane,
A long mane,
A short mane,
A chestnut horse, &c.

4

A horse kicking,
A mare snorting
A pony drinking,
A hackney trotting, &c.

5

That horse is grazing,
Those horses are galloping,
The foal is sucking, &c.

6

The horse is gentle,
Some horses are hard-mouthed,
My horse is strong,
Horses are gregarious, &c.

7

The horse is a beast,
The horse is a quadruped,
The horse is a domestic animal,
Colts are young horses, &c.

8

I have a horse,
Every horse has a mane and tail,
All horses are not broken-kneed, &c.

9

That horse is eating hay,
These coach-horses are pawing the ground,
This horse is licking his knee, &c.

By this method knowledge is communicated simultaneously with language; and if some of the words used in the above lessons appear to be far-fetched or somewhat approaching to scientific terms, it should be remembered that they only present simple ideas, for which reason they are easily communicated, and help to furnish the mind with facts and information. With a deaf and dumb pupil a word is never considered *hard* because it is long. Such words as *gregarious*, *oviparous*, *amphibious*, &c., are descriptive of very simple ideas, and as such are included in some of the earliest lessons.

Many of the pupils now begin to express their ordinary wants by writing on a slate, or by spelling on their fingers. They acquire a knowledge of such forms of expression as the following:—Fetch a chair for this lady. Bring me a pointer. Put a large tablet upon this easel. The boys have no soap. The girls are scouring their bedrooms. Where is our clothes-brush? John —— has fallen down and bruised his eye. Similar communications to these are continually passing between the pupils themselves, and between them and their teachers. From these the beginners pick them up, and learn to apply them with greater or less accuracy, just as an infant appropriates the language spoken in its hearing.

Besides the knowledge here described, the pupils make other important acquisitions. The effect of good education is to promote habits of order, feelings of love to each other and to all men, and the performance of moral duties. Although these duties cannot be inculcated at first by words, they can be enforced by actions and by example,—by a constant occupation of the pupil in body or mind, and by the watchful eye of those above

them to detect and counteract, as far as possible, evil tendencies. When a pupil has been subject to such vigilance for only a few months, a gradual but perceptible improvement invariably takes place. The deaf and dumb early begin to form ideas of their accountability without any direct instruction on this point. In the school-room-meetings for morning and evening prayer —an exercise which is performed by the medium of signs, or by dactylology—and from their continual intercourse with the instructed pupils, the class of beginners perceive that there is a great and all-directing Being; and though their conceptions may be very vague, yet still they are, in some measure, prepared for religious instruction, by means of written language, when it is thought proper to commence this important part of education.

The only holiday in the year at the Yorkshire Institution is at Midsummer, at the expiration of which the new admissions take place. This absence from the scene of their education has always a good effect on the pupils, and more especially on those of only one year's standing. They uniformly return to school with pleasure. Indeed, the contrast between their comforts there and their comforts at home cannot but make them more sensible to the advantages of their situation, besides the pleasure which they must derive from their extensive intercourse among their fellows, compared with their confined means of social communion elsewhere.

The business of instruction is recommenced with the first-year pupils by a repetition of their preceding lessons—a work which occupies a few weeks. The teacher then resumes his lessons on the verbs by proceeding to explain the *simple past* and the *simple future tenses* of

the verbs *to have*, *to be*, and of *regular verbs;* then, he passes on to the *comparison of adjectives; adverbs derived from adjectives;* the *passive* voice of *verbs; prepositions* and other easy particles; and the *definite article. Abstract substantives* descriptive of physical properties come after these.

The past and future tenses of verbs are explained, in the first instance, by diagrams representing the days of the week, the months, the seasons, the days of the year. *A night's sleep gone* (pointing backwards) represents yesterday; *a night's sleep to come* (pointing forward) represents to-morrow; *two to-morrows*, *two yesterdays*, continuing to use the literal translation of signs, meaning the day before yesterday and the day after to-morrow, are as easily described as the nearer periods. For the purpose of teaching present, past, and future time more accurately, a tablet has been provided, of which a sketch is given. It is divided into seven compartments, and the words that are printed here are painted white on the black ground of the tablet. Its size is five feet three inches by two feet.

Three days ago.	Two days ago.	Yesterday	To-day is.	To-morrow.	Two days hence.	Three days hence.

When this tablet is used, the name of the day (say Tuesday) is written upon the middle compartment by

the teacher; a pupil is asked the name of the day before, viz, *yesterday*, and he is desired to write it: he will probably write "yesterday *is* Monday." The opportunity is now taken to show him the auxiliary word which applies to the past—*was*. The same course is pursued in teaching the expression of future time, *will be*, until the words are correctly applied. The compartments on the board serve to record any little events which have taken place or which are likely to take place. The following is a specimen of their use, at first by the teacher, afterwards by the pupils.

Yesterday
was
Thursday, 5th of September.
All the children *went* to see an archery meeting in the afternoon.
Thomas——— *saw* a covey of partridges fly out of the garden, early in the morning.
At seven o'clock in the evening the elder boys *attended* Mr. ——'s lecture on Astronomy.

The divided tablet, simple as it appears, is a most valuable instrument in instruction. The events of to-day, expressed in the *present tense*, can soon only be spoken of in *the past*; while the to-morrow spoken of to-day *in the future*, occupies its place, and in its turn becomes a yesterday.

As the pupils advance from this point, every step becomes easier and more pleasant. *Verbs passive* are

certainly difficult at first. With some modifications the method pursued by Sicard is generally adopted. The *prepositions* which are first explained are those which can be rendered quite sensible, as *on*, *in*, *before*, *behind*, which are very properly called *local prepositions* by Bishop Wilkins in his Treatise on Natural Grammar. Sometimes this class of words is taught by a diagram, similar to that which is given in the above-mentioned work, or by placing real objects in the required situations, instead of drawings. It has been remarked in the course of this article, that words must be classed to show the nature and powers of those words, as well as the similarities which exist among all words of the same class, and their difference from every other class of words. It must, however, be recollected that spoken language will never be learned by such means. It is the constant use of dissimilar words in connexion with each other which makes hearers and speakers understand sentences and utter them correctly. It is the business of the instructor of the deaf and dumb to make his pupils familiar with the construction and use of the mother tongue in all their communications. This is done in some institutions by articulation and reading on the lips; in others, of which that in Yorkshire is one, by writing or by dactylology. This point is particularly attended to in the second year of the pupils' progress, and it is the only method by which they can be made expert in the use and ready in the application of the particles and of other words which present no sensible idea to the mind.

No mechanical exercise of the memory is allowed in this institution. Nothing is learned by heart; if repetitions of lessons are necessary, they are performed

under the eye of the teacher or one of the more advanced pupils, and at each repetition difficulties supposed or confessed are explained. Not a lesson nor a line has been "learned by heart" since the commencement of the institution, nor have any *signs for ideas* been committed to memory without an explanation of the ideas that such signs represent.

The lessons on Language are varied and extended during the second part of the second year by the introduction of printed books. The first book used for this purpose is Miss Mayo's "Lessons on Objects." With a few trifling modifications, which will be obvious to the teacher as he goes through it, this book may be made very useful in the instruction of the deaf and dumb; and their training, which so particularly accustoms them to observe *things*, their *properties*, &c., will enable them to take up the lessons quite in the spirit which Miss Mayo recommends. Another book which is used at this period is Mr. Baker's "Lessons on Natural Religion." The matter of this little work has been taught to successive classes, and it is now published. It is the author's opinion that with all children instruction in natural religion ought to precede that in revealed religion. Such he finds to be the only way of proceeding with the deaf and dumb, who, previous to instruction, have never conceived any notion of the Supreme Being; and his experience among hearing children convinces him that their notions are very often vague and unsatisfactory. As these lessons are the first direct instruction which the pupils receive on the existence of a God, they are illustrated by more examples than are embodied in the published work; the section also which explains the nature of the soul and the operations of the mind, is

considerably amplified at the time these subjects are taught.

Arithmetic is begun in the course of the second year's instruction; its first principles are developed from visible objects, in the way we have already described. Counting as high as a hundred is one of the objects of attention during the *first* year. Notation is not carried much farther before addition and subtraction are commenced. In these developments a little work entitled "Lessons on the Arithmometer, or Bead-Table," on Pestalozzian principles, is used. So far as the writer of this article is acquainted with that great man's principles on the elements of number, no work illustrative of them is so well adapted to young calculators as the one named.

Geography forms a part of the pupil's course in his second year. We cannot better describe the mode in which this science is commenced than by referring to the same subject as taught at Bruce Castle, (page 118, No. XI. of the Journal of Education.) By such an introduction the children understand what they are about from the first; and, as is the case with all subjects which they fully comprehend, they pursue it with pleasure. When a certain knowledge of topography has been acquired, an outline map of Yorkshire on a large scale is shown to the pupils, and the place of residence of each is pointed out. To impart a tolerably correct idea of relative distances, each pupil is led to observe, as if voluntarily, the length of time he was occupied in travelling from his home to the Institution. The situation of Yorkshire on the map of England is discovered as soon as that map is laid before them; and places of which they may have incidentally heard are now shown to the class, the

teacher all the time encouraging them to remark upon distances, situation, &c. The United Kingdom, Europe, the World, and the Terrestrial Globe are successively introduced to enable the children to generalize, and to form some idea of the size and position of the several portions of the earth. Returning to the geography of England, the first lessons are upon its political divisions, the larger towns, and the productions of certain districts. Then the physical appearances of the country are taught from maps excluding all political boundaries. The same plan is pursued with other countries throughout the geographical course.

It is intended to construct a series of maps of England by which geography shall be made the basis of much general knowledge.

1. The mineral districts—their relationship to the manufacturing districts.

2. The manufacturing towns and agricultural districts. The names of the different manufactures to be written in the body of the map on the spot where they are carried on.

3. History and chronology. Important events to be recorded instead of the names of the places where they occurred. The year to be specified.

4. Inland communication. The larger roads, rivers, and canals to be laid down.

5. Population. The number of inhabitants to be written on the site of counties and towns.

In confining these objects to separate maps, the pupils will be taught to individualize, and thus their minds will be fitted to comprehend the whole subject through the medium of its parts. The application of these prin-

ciples, combined with those of Professor Agren (see Journal of Education, No. XI.), might be extended to other countries.

Models of the succeeding lessons on the Horse are here given to illustrate the exercise on language connected with Natural History. But it should be premised that all the following developments in language are not gone through during the second year, and sometimes not even in the third year, as the more difficult tenses of verbs and many particles require repeated explanation. It may be here stated that no attention is paid to the technical classification of particles into conjunctions, prepositions, adverbs, &c.; they are arranged in these lessons according to that order in which it is supposed they can be made most intelligible to the pupil; those which are found to be easiest are taught before those which are less intelligible.

10.

The horse grazes.
The horse eats grass, hay, and corn.
Grass, hay, and corn, are eaten by the horse.
The horse carries burdens and people.
Burdens and people are carried, &c.

11.

The race-horse carries his rider swiftly.
Waggon-horses draw heavy loads very slowly.
A few days ago, a coach-horse kicked a stable-boy viciously, and the boy bled profusely, &c.

12.

I had a pony some years ago.

My horse has had a disease called the glanders, &c.

13.

Mr. Smith's colt has been shod to-day.

The bay pony will be clipped next November; then it will have been clipped three times.

I might have been riding now if it were fine, &c.

14.

Horses sleep *in* stables in winter. The fetlock of the horse is *near* the hoof. The shoes are nailed *on* the foot. *Both* John Dobson's horses are dead.

15.

John Dobson has *neither* horses *nor* money. *Sometimes* a mare has two foals. Some horses cost little *because* they are blemished. A waggon-horse is *much* heavier *than* a race-horse, &c.

16.

The *strength* of a horse is very great. A race-horse has been known to run a mile in a minute—what astonishing *swiftness!* Horses are valuable because they possess *strength, patience, docility, beauty,* &c.

17.

(*A short connected lesson.*)

The form of the horse is elegant, and unites both strength and swiftness. He is useful in lessening man's labour; and whether engaged in hunting, in battle, in drawing stately carriages or heavy ploughs, he is obedient, &c.

During the third and fourth years of instruction, deaf

and dumb pupils do not, to a superficial observer, appear to make an improvement equally rapid with that of former years; but he who closely examines and compares their progress will discover that their acquirements display more accuracy and solidity than they ever before exhibited. He will find also that the superficial observer, in the pleasure he felt at any degree of advancement, charitably overlooked faults and errors towards which he will be less kindly disposed after the novelty of his first impressions has subsided. In the one case he will be too lenient, in the other too severe.

Composition, which is only encouraged during the second year, is required during the third and succeeding years. It is the pedometer of a pupil's progress; it not only shows the steps he has taken, but it points out his deficiencies in what he is supposed to have acquired. It also shows the teacher at this period, that his pupil still wants the *compound tenses of verbs*, and the more difficult *particles*, and discovers the round-about track which he takes in endeavouring to express an *abstract idea*. These are the confessed difficulties in the instruction of the deaf and dumb; and to these parts of language, in addition to those in which the pupil is found not to be well-grounded, the attention of the teacher will be particularly directed during the subsequent period of education.

In developing more fully the niceties of expression for tenses or time, the inquiry again presents itself, "How does a child become acquainted with the language of its country?" Certainly not by the rules of grammar, nor by any philological lectures; these are for teachers. By mingling with society, by hearing of events referred to time past, present, and to come, and by reading, all

children acquire the forms of speech; but mostly by the first, as is evident from the use they make of phrases and expressions which are current among the persons with whom they associate. A constant exercise in phrases embodying the compound tenses and particles, appears to be the best method of initiating pupils into their correct use. If events do not occur, sentences should be framed on supposed events; but events are certain to occur to bring most forms of expression and most words of importance into use, In this manner, the boy who is constantly having such sentences as the following addressed to him will not fail to understand them, at first with the assistance of signs, and afterwards by mere spelling or writing.

You will have been here three years next August.

This gentleman has been here an hour; he will be here an hour longer; he will have been here two hours, one hour hence.

He should have written his letter before one o'clock.

—— will have had his silver pencil-case two years next May, &c. &c.

Methods of dissecting these tenses are used in the course of the lessons on language during the third year; but the correct employment of them can only be acquired by enforcing on the pupils the use of dactylology or writing to express all their desires, and by encouraging them to detail any circumstances, especially with reference to *time*, which fall within their observation. Much has been written on the particles by De l'Epée, Sicard, and later authors, and some of their diagrams are used in conveying the ideas represented by these words; but, after all, the main instrument for perfecting the deaf and dumb in the use of

connective words is, practice in conversation and composition.

The books used during the third year are, *Lessons on Objects*, *Scripture Characters*, *Lessons on the Creation*, and *First Lessons on Revealed Religion;* the three last written by the conductor of the Yorkshire Institution. In using these books the class write the lesson upon their slates, read it over, and apply for an explanation of those words or sentences which they may not comprehend. The whole lesson is then explained to the class in mimic language; the class again read the lesson, and the questions annexed to it are put to them.

The lessons on "Scripture Characters" are intended to inform the pupils of the leading historical facts connected with the principal persons mentioned in the Old and New Testament. Those on the "Creation" are not only an exercise on the first chapter of Genesis, but also convey much information on the natural world, on the soul of man, and on the attributes of God. The "First Lessons on Religion" profess to inculcate the principles of Revelation. All lessons, whatever be the subject, are given to the pupils either in the expositive or the inductive form, and are followed by a series of questions for their elucidation and development.

There is no greater impediment to the progress of the deaf and dumb in useful knowledge than the want of a variety of books suited to the different periods of their education. Such books can only be written by their instructors, as they alone can be acquainted with the difficulties of such an undertaking. It has been perhaps truly remarked, that the publication of such books, even if they could be written in a manner to

meet the views of all teachers of the deaf and dumb, would involve an expense which their sale would not be likely to defray. Our view upon this question is, that books written purposely for the deaf would be the best elementary works, if well done, to put into the hands of all children.

"The Little Philosopher," by Mr. Abbott, of Mount Vernon School, Boston, has been lately reprinted in England. It has been introduced as a class-book for the pupils of three years' standing at the Yorkshire Institution. Much of its subject matter is very good, and superior to most books of the same nature; but perhaps an exception may be taken to some of its philosophy, and the form in which it is written is objectionable. Nevertheless, as an attempt to bring down philosophical truths to the minds of infants, it possesses much merit, and deserves circulation. The way in which this book is used at the institution of which we are writing, is to recast each subject in the expository form, to explain it if necessary, and then to propose questions upon it for the examination of the pupils. Catechisms in themselves are bad things, and though we would not think of degrading "The Little Philosopher" to the level of Pinnock, yet there is too much of the catechismal spirit throughout the book. Questions too difficult to be answered without some knowledge of physics are frequent in the work. We recommend to those who may use this book, as we would do with respect to some other elementary works, that the whole of the subject-matter of each lesson be communicated to the pupil before the questions are asked, and that there be no committing to memory.

Arithm s proceeded with during the third year,

and the pupils are instructed in the use of the dictionary. The latter is a great help to them in acquiring language. All the lessons which they read are first read with this help, and they are expected to apply for information only on those words respecting which the dictionary is not clear and satisfactory.

The same books which are used in the third year, are continued in the fourth, in addition to which Mrs. Trimmer's Sacred Histories and the Bible are introduced. The doctrines of the Christian religion, previously confined to Sunday instruction, are now made a portion of the weekly lessons. Geography and arithmetic are also a part of daily study; and composition is made a subject of greater importance than heretofore. In addition to this the children are expected, out of school-hours, to read certain selections in natural history, upon which they are questioned in school; and as they are accustomed to collect objects of interest which they may meet with in their walks, or when they go home at the holidays, this part of their studies is made very interesting. Even arithmetic is made subservient to the one great end proposed to be accomplished, namely, the communication of language and knowledge. Geographical, astronomical, statistical, and various other questions are asked to exercise the pupil in the practice of calculation, and the facts thus gathered up are by no means unimportant to children who have such limited powers of communication with the world.

The morals of the little community within the walls of this institution are studiously cultivated. Often do its members arrive there with notions the most lax imaginable, and the older they are when admitted the

worse they generally are in this respect; but how can we expect it to be otherwise? Their parents have exercised little or no restraint over them, from inability to communicate on any subject beyond their merest physical wants, so that their evil propensities have grown up with them, and are frequently manifested in their conduct. To repair this deficiency of virtue as well as of knowledge must be the instructor's great care. To secure this object, it is a rule never to allow the children to be alone. An assistant teacher is expected to be constantly among them, to observe what is wrong, and to direct them in what is right; and improper conduct is commented upon in the school-room. Thus their moral delinquencies are detected and exposed, not for the purpose of exciting any improper feeling towards the delinquents, but to furnish an opportunity of appealing to their higher feelings, and to present motives which shall lead them to do right. The result of this treatment generally is, that in the space of a few months considerable improvement takes place in their dispositions and habits. Parents frequently observe this moral change, and indeed it will be more perceptible to them than to those who have the daily charge of their children.

No system of direct rewards has hitherto been pursued, but it cannot be said that *emulation* has not been excited. It is perhaps one of the most difficult considerations which the principal of an institution has to decide, whether or not emulation shall be a leading feature in his plans. We see institutions around us on the two opposite principles—to all appearance equally successful. It is undoubtedly more easy to dispense with rewards than to dispense with punishments. In

this institution it is endeavoured to regulate the punishment by the offence. Loiterers and idlers in school have their stay there prolonged, during which prolongation of school-hours they are kept at their lessons. Solitary confinement, without being so solitary as to affect the nerves, and a bread and water diet, have often been found a salutary check upon offenders. With new pupils, whose minds are yet undeveloped, and who are scarcely susceptible of any higher or lower feeling than physical pleasure or pain, recourse is had to corporeal punishment, if after a second or third offence they still remain refractory. After all, there are very few cases where punishment is necessary, either among the junior or the senior pupils, and with the latter corporeal punishment is very rarely resorted to. Prevention is better than punishment; and ordinary vigilance on the part of teachers will often hinder the commission of a schoolboy's ordinary offences. In reference to the subject of wrong notions and habits in deaf-mutes, great allowances must be made for their errors, great attention and forbearance must be exercised in the work of their reformation, from the slowness and difficulty with which moral considerations are addressed to the mind. The first restraints must be mechanical with them as with all little children. What they do, and what they avoid doing, must for a certain period stand upon no better basis than the directions of their teachers. It is, however, a duty which cannot be lost sight of for a day, to force into their poor unformed minds the reasons on which morality is founded; the injustice and impolicy of theft, the bad consequences of passion, the utility of employment, &c., all which must

accompany, if not precede, appeals to the higher sanctions of religion.

One difficulty with the deaf and dumb, as with other children, is to make them observe and think;—a greater still to get their observations and thoughts embodied in words. Even pupils who sufficiently understand language to comprehend what is said of a subject, do not easily acquire the power of putting their ideas on paper. The organic defects which throw additional obstacles in the way of the deaf and dumb, make his progress in both the above operations slow and imperfect. The labour required, unless it is counteracted by activity of intellect, indisposes his mind to exertion; and he is too credulous, because he is too willing to take for granted whatever is told him with anything like seriousness, however absurd it may be.

At the time of our writing, a few of the pupils of the Yorkshire Institution are entering on their fifth year. The course of instruction laid down for that year is the continuation of arithmetic, geography, morals, and religion, composition, abstract ideas, and figurative language.

Throughout the whole arithmetical course, more attention is given to the principles of the different operations than to the attainment of the power of rapid calculation. The majority of the children acquire enough of arithmetic to carry them through the common affairs of life. The geographical knowledge imparted to them relates chiefly to the physical and political geography of Great Britain. Less time is bestowed upon the other parts of the globe, about which good deal of information is incidentally acquired from their other lessons, and from general reading.

Instruction in morals goes hand in hand with religious instruction, and all pains are taken to acquaint the pupils with those great truths which affect their eternal well-being. The results have sometimes been very pleasing. In teaching the Gospel history, reference is made to Mimpriss's Pictorial and Historical Map of Palestine, which is found a very valuable instrument for imprinting facts on the minds of the pupils in connexion with the places where they occurred. With respect to *abstract ideas*, no mode of development is found so efficient as analysis and ample illustration, aided by constant recurrence to such as have been communicated. Below is an example, which is one of a series of lessons prepared on purpose to illustrate abstract ideas. But all such ideas are not delayed till this period in the education of the children: those of the simpler kind, such as goodness, sin, brotherly love, can be readily exemplified by signs, and they are conveyed to the mind of a child soon after instruction commences.

SENSIBILITY.

We see, hear, feel, smell, and taste, by the help of our *senses*. The body is *sensible* of cold, heat, motion; the ear is *sensible* of sounds; the eye is *sensible* of forms, colours, &c.; the nose is *sensible* of odours; the mouth and palate are *sensible* of different tastes. The *feelings* or *sensations* of the body are sometimes pleasant and sometimes painful. A person who shrinks more than ordinary from heat or cold, has *bodily sensibility*. The mind knows the difference of these feelings, but they are *bodily feelings*.

The mind is not *sensible* in the same way as the body. It does not feel cold, heat, hardness, &c. The

feelings of the mind are joy, grief, anxiety, fear, love, hatred; the body has no such feelings as these; they are *mental feelings.*

If we are blamed without cause, the mind is *sensible* of being wronged; the body feels no pain, but the mind is uneasy and anxious. When such blame cannot harm us, and when we believe that we have done right, if we fret and sorrow we are *foolishly sensible*, and such *sensibility* is improper.

If a person shows great kindness to us or to others, and we feel that we love him in return for that kindness, we are *sensible* of his kindness; such *sensibility* is proper. The person who receives kindness without feeling grateful is *insensible* to kindness.

A man who is always distressed and unhappy on witnessing the common sorrows and privations of mankind has too great *sensibility.*

The boy who can receive continued reproofs for doing wrong without trying to amend, is *insensible* to shame; and he who feels afflicted at every slight reproof has too much sensibility.

From the time that the pupils begin to converse with tolerable freedom by means of natural signs *figurative language* is occasionally employed. From the circumstance of a pupil rising up in the school to exonerate another who has been unjustly accused, it may be shown how an aggrieved party may be *defended* by words, though an actual blow be not struck in his defence. The words are the blows on such an occasion. An expanding flower will give opportunity to speak of an *expanding mind.* Instruction may be called the *food*

of the mind—an analogy which will readily be recognized by every one. Knowledge and ignorance may, in the same way, be compared to light and darkness. Hundreds of familiar examples occur in the routine of instruction which serve to explain the metaphors with which language abounds. Fables are also used for the illustration both of abstract ideas and of figurative language. These fables, in addition to their own title, have the name of the idea which they are intended to illustrate written over them, in this way—CONTRIVANCE, *The Crow and the Pitcher;* SELFISHNESS, *The Dog and the Ox*, &c. The parables of the New Testament also illustrate figurative language, as well as being adapted to convey important religious knowledge.

A small work is very much wanted, as a school-book, on figurative language, taking a range of illustration from the simplest to the most complex examples, and explaining in a clear, intelligible way, the distinctive marks of metaphors, fables, parables, allegories, personifications, &c. Such a work should abound in examples rather than in dry metaphysical rules; some of the Abbé Sicard's explanations are very plain and concise, but the generality of them are two etymological, and better adapted for a teacher than a pupil.

For such a course of instruction as we have delineated, involving the development of faculties which may evade the unfolding touch of the teacher in the ordinary routine of education, it cannot but appear that *five* years are inadequate to do justice to its various requirements, particularly when it is remembered that the mind comes in a state barren beyond description—

a wilderness at best, but too often covered with brambles. An ordinary child three or four years old has a large stock of ideas compared with those of a deaf and dumb child who has gone through even half of the period usually allotted to instruction. It would be desirable to prolong this term by one year, if it could be done consistently with the claims of other objects of the charity. A sixth year would be more valuable in strengthening and confirming good habits, and preparing the pupils for the world, than any two preceding years of their course. A considerable number of those who gain admission to deaf and dumb institutions do not continue the whole time allowed. Out of thirty-two who were admitted into the Yorkshire Institution during the first two years, only *eight* are entering into the fifth year of their course, and *six* into the fourth; the remainder having been withdrawn for reasons stated in a former part of this article. The evils resulting from such withdrawals not only affect the objects so deprived of education, but will be visible in the revival of that ancient prejudice which represented the deaf and dumb as little better than demi-automatons.

The examinations of the pupils are particularly entitled to our notice. Besides the annual public examinations at Doncaster, and occasional examinations at other populous towns in Yorkskshire, there is at least one yearly examination at the school before the committee of the institution. No prepared questions are asked by the examiner. Those who are present are solicited to take a part in the examination, and frequently do so. Errors are occasionally made, but are

often corrected when the pupil is made to comprehend the question proposed. They are more frequently errors in language than errors of ignorance.

An abstract of the rules of the Yorkshire Institution which apply to the children, may perhaps not improperly be introduced here:—

It is designed to be a school of Industry, as well as of religious and general education.

No child can be admitted before eight, nor after fourteen years of age.

None can remain after the age of sixteen, nor continue more than five years from the date of admission.

Two shillings and sixpence is the weekly payment required towards the maintenance of each child.

Children are elected by subscribers, a rule which has never yet been called into operation, as all qualified candidates have been received.

Children not requiring the aid of charity are received on payment of a sum fixed by the committee.

At the last annual meeting it was agreed that children should be admitted from any part of the kingdom on terms to be fixed by the committee,—reserving ample accommodation for Yorkshire applicants.

The design originally contemplated of making the institution a place of manual labour in the sense generally understood, has not been acted upon. Nor can it be practicable for the children to be taught even the domestic trades, without an extension of the term allotted for their education. So far as the spirit of the regulation goes, it has been adopted to a great extent. The children are trained to habits of constant industry and activity, and are total strangers to listlessness and

its evils. Moreover the employments to which they are subjected have the happiest effects on their general conduct, and certainly promote cheerfulness of demeanour. Some institutions for the deaf and dumb are strongly opposed to the union of labour and learning. Locke's wise remark has received of late years full and repeated testimony to its truth. Certainly the experience of all who have observed the effect of this union will assent that 'Exercises in the body and the mind may be made the recreation one to another.' Why not, then, turn those hours to account which would otherwise remain unemployed, or worse than unemployed? The boys in the Yorkshire Institution are engaged in various occupations suited to their age and their capabilities. It is a part of their daily business to grind a certain portion of wheat for the consumption of the house. For this purpose the whole number of boys is divided into three classes, each class working every third day: thus the labour is equalized. The mill used for this purpose is a steel mill with two handles: two of the taller boys take hold of the handles, to which ropes are attached and pulled by four or six smaller boys. The operation is very simple, and the task, though it bears no such odious name, is often accomplished in an hour and a half. It is constantly remarked by those who are observant of their conduct, that the class whose turn it may be to work at the mill are very anxious to get through their lessons in school; and on the contrary, that when they have any additional employment, as copying lessons, to be done out of school hours, their work at the mill is gone through more rapidly. This is one proof of the beneficial tendency of such a change of employments. When the mill

was adopted, the boys were told that the supply of flour for the house would depend upon their labour, and it has always been supplied without a murmur, though the consumption is about six bushels per week. This mill, with its dressing machine, was not procured as a source of profit to the institution, but chiefly that the boys might have a certain portion of strong exercise at regular intervals. The saving in consequence of this labour cannot amount to less than 10*l.* annually.

The other emyloyments for the boys are gardening, shoe and knife-cleaning, and a variety of occasional labour, such as is necessarily connected with a large establishment. A tailor and a shoemaker attend the institution for about one week in every month, and the boys designed for those trades attend each of them in the intervals of school business to receive instruction. With greater funds than the institution at present commands, workshops might be erected, and two men pursuing the above trades might be resident on the premises at a trifling additional expense, by which arrangement many of the pupils, if retained a sixth year, might be sent into the world well qualified to obtain a livelihood.

The employments of the girls are rather more laborious than those of the boys. Eighteen or twenty constantly-occupied rooms have to be swept or scoured daily, as well as all the passages and staircases in different parts of the house. The bed-linen and table-linen washing is performed by them, and the ironing and mangling of the other articles. These and other occasional labours occupy most of their spare time; the afternoon of the day is generally spent in mending for themselves and the house, or in making various

articles of wearing apparel for the poor, which are sold with very little profit to friends and casual visiters to the institution. The active employments detailed above have the best effect on the health of the children. The institution has been nearly free from illness from the period of its establishment. The scrofulous affections so common among the deaf have very seldom assumed any unpleasant appearance, nor have they produced any bad effects on their general health.

In the domestic arrangements of the establishment it is worthy of remark that only two house-servants are kept, a cook and a housemaid; the latter to superintend the household work, or to do it, if by her negligence it is left undone by the girls. The moral deportment of the girls, their needlework, and the direction of the domestic part of the institution, are confined to the matron. The two assistant teachers are the only other subordinate officers in the establishment, and their duties are separate and distinct. Besides assisting in the school, the senior assistant watches over the moral and orderly demeanor of the boys when not in school; the junior superintends the performance of the manual labours out of school, preserves the general order of the lessons and apparatus of the school-room, the workshops, and other offices, in which duties he is assisted by the boys; even the least child in the establishment has some work to perform tending to habituate him to order and carefulness.

By means of the manual operations described, the children acquire fixed habits of industry during their continuance in the institution, which habits will generally take any direction their guardians may afterwards prescribe. The boys from agricultural districts will,

in many cases, but not in all, become farm-servants; those from the manufacturing parts will be put to the occupations of their neighbourhood. It is the main design of the patrons of this Establishment to give the pupils such an education as will fit them for filling their station in society with credit to themselves, and with usefulness to others. There are few employments of which the deaf and dumb are not capable; they make good servants, good labourers, good artisans, but not good shopkeepers. Some youths have been employed as ordinary clerks, others as copying clerks in law-offices, and a few have excelled in painting or engraving.

The following tables will give a correct idea of the employments of each day in the fourth year of the course:—

TABLE I. *Routine of School business, in the first part of the Fourth Year of the Course.*

Days	Classes	Morning		Afternoon			
		9 to 11	11 to 12	1 to 3	3 to 4	4 to 5	Evening 6 to 7½
Sunday	1st Class	Geography	Public Worship	Dinner. Boys at Mr. Gordon, &c.; Girls at sundry Household Work.			
	2nd "	do.	do.				
	4th "	Natural Religion	do.				
		Language	do.				
Monday	1st Class	Mathematics	Languages		Geography		Geography
	2nd "	Arithmetic	Languages		do.		do.
	4th "	Geography	Natural Religion		Language		Language
		Language	Languages		do.		do.
Tuesday	1st Class	Arithmetic	Physics		Geography		Geography
	2nd "	Mathematics	do.		do.		do.
	4th "	Arithmetic	Languages		Language		Language
		Language	do.		do.		do.
Wednesday	1st Class	Mathematics	Languages		Geography		Geography
	2nd "	Arithmetic	Natural Religion		do.		do.
	4th "	Geography	Languages		Language		Language
		Language	do.		do.		do.
Thursday	1st Class	Arithmetic	Physics		Geography		Geography
	2nd "	Mathematics	do.		do.		do.
	4th "	Arithmetic	Languages		Language		Language
		Language	do.		do.		do.
Friday	1st Class	Mathematics	Languages		Geography		Geography
	2nd "	Arithmetic	do.		do.		do.
	4th "	Geography	Natural Religion		Language		Language
		Language	Languages		do.		do.
Saturday	1st Class	Arithmetic	Repetitions				
	2nd "	Mathematics					
	4th "	Arithmetic					
		Language					

Breakfast. Boys at Mr. ; Girls at Household Work.

Ten minutes allowed in the forenoon for exercise.

Evening lessons into books. The junior Class in School [illegible] four every afternoon, except Saturday. Walks occasionally. The Girls at Needlework who are not otherwise employed.

All the children taking Exercise.

TABLE II.—*Routine of School-business, in the second part of the Fourth Year of the Course.*

Days.	*Classes.*	*Morning.*		*Forenoon.*		*Afternoon.*		*Evening.*	
Hours of the day		.....6¼—8	8—10	10—11¼	11¼—1	1—3	3—5	5—5¼	5¼—7¼
Sunday ..	1st Class	Gospels		Public Worship	Public Worship		Gospels		Gospels
	2nd „	do.					do.		do
	3rd „	Script. Characters					Script. Charac.		Script. Charac.
	4th „	Nat. Religion (Signs)					Nat. Rel. (Sns.)		Nat. Rel. (Sgns.)
Monday ..	1st Class	Scripture History		Physics	Physics				Geography
	2nd „	do.		do.	do.				do.
	3rd „	Geography		Creation	Creation				Creation
	4th „	Language		Language	Language				Language
Tuesday .	1st Class	Revealed Religion		Language	Composition				Arithmetic
	2nd „	do.		do.	do.				do.
	3rd „	Arithmetic		do.	Objects				Language
	4th „	Language		do.	Language				do.
Wednesday	1st Class	Scripture History		Physics	Physics				Geography
	2nd „	do.		do.	do.				do.
	3rd „	Geography		Scripture History	Scripture History				Scripture History
	4th „	Language		Language	Language				Language
Thursday	1st Class	Revealed Religion		Bible Exercise	Bible Exercise				Arithmetic
	2nd „	do.		do.	do.				do.
	3rd „	Arithmetic		Language	Objects				Language
	4th „	Language		do.	Language				do.
Friday ...	1st Class	Scripture History		Language	Composition				Geography
	2nd „	do.		do.	do.				do.
	3rd „	Geography		Creation	Creation				Creation
	4th „	Language		Language	Language				Language
Saturday .	1st Class	Revealed Religion							
	2nd „	do.		Repetitions.	Repetitions.				
	3rd „	Arithmetic							
	4th „	Language							

Note.—The parts of the day between School-hours are filled up by work as in the former part of the year. *See* Table I.

A new arrangement of school business is necessary every half year. The first and second class receive most of their lessons together, though the children are of a different standing in the institution. This is done to economize teachers. By the term language used in the tabular views is meant classes of words and particular forms of expression, from the ordinary noun to abstract ideas. Perhaps grammar would be better understood, but the teaching is carried on without the use of grammatical rules. The lessons are illustrations of grammar, rather than grammar itself; and therefore more properly called language. The word physics means lessons on the properties of natural bodies, such as were before adverted to in "The Little Philosopher." The scripture history used by the third class, which consists of pupils who have been a year and a half in the institution, is written in a style suited to their confined knowledge of language. It is almost without particles, and very free from elliptical expression. As these lessons are unpublished, an example is given below. Would not books for children be better understood if a similar style were used in their composition? In talking to children, we invariably endeavour to omit expressions which might embarrass them, and, at the risk of much repetition, we use language, such as we think adapted to the infantine mind.

"THE PLAIN OF SHINAR.

"After many years, men were very numerous on the earth. Men lived near to each other. They spoke the same language. They liked to live in the same place. It was a pleasant country where men lived. It was a

plain. They wished to live there always. The plain was called Shinar. It was very wide and extensive. There (on the plain) people had their houses, tents, fields, and cattle. The people said:—'We are numerous and strong—we will build a city and a tower—the tower shall be very high—its top shall reach the clouds—let us now make bricks and burn them, and let us make mortar—we will stay here always—we will not go to distant countries—we will not be scattered abroad on the earth.' God saw the city and the tower which men were building. God was not pleased; &c."

It will be borne in mind that these lessons are almost the first complete sentences on a connected subject which are communicated to the pupils, and this is done as soon as they begin to have a tolerably correct idea of the structure of sentences. If the readers of the Journal of Education will refer to the article on "An Improved Method of teaching Modern Languages" in the 8th Number, they will find a precisely similar course recommended; and indeed a German tale is there broken into sentences quite similar to the above example. Deaf and dumb pupils are learners of the English language, and their case is parallel to that of other learners of languages in one respect, though they have to learn through a more intricate medium. The deaf have to ascend from their very meagre language of natural signs to one very rich and full in its artificial expressions for thoughts which have never entered into their untaught minds, thus establishing a wide difference between them and other language-learners. We who hear and speak have clear ideas of all conventional signs in our mother-tongue. The operation with us is only to transfer an idea which we already possess into

the conventional sign for that idea in the language we desire to acquire. The deaf and dumb have to master the idea as well as the sign for it.

Next to a series of reading books on nature, science, and art, too much stress cannot be laid on providing a museum of natural and artificial objects, minerals, metals, woods, shells, models, instruments, pictures, foreign curiosities illustrative of the productions and manners of distant countries, &c. &c. These are the most efficient of all helps to the instruction of the deaf and dumb; they are better than any descriptions, because they present ideas to the mind with more force than words can do, even with all the assistance of signs. A collection of this kind has been commenced in that institution to whose history and prospects we have now devoted our pages, and we would gladly do it some service by recommending its friends to send contributions to the museum. Many specimens have been procured from shopkeepers and mechanics; some have been kindly presented, and others have been collected by the pupils. The more complete such a collection can be made, the clearer will be the conceptions formed by the pupils of the nature and properties of things, an incalculable advantage to all young people, whether endowed with all their senses, or unfortunately deaf and dumb.

Much of the earlier instruction of deaf-mutes might be accomplished before they are admitted into institutions; they might be taught to write, to learn their letters, to spell the names of objects, to learn many of the qualities of objects and actions, either at ordinary schools or at home. It is hoped that some of the teachers in England will publish a series of graduated

exercises in language to aid this desirable work, and that the mystery which has so long shrouded the different methods of instruction in the British dominions will be removed. Already on the Continent we behold the dawning of a brighter day. In some countries the instruction is commenced in the primary schools, and in others books have appeared to assist parents and ordinary school-masters. The institutions for the deaf and dumb at Berlin, Königsberg, Munster, Munich, and Gmünd have been formed into normal schools to train teachers for their respective countries. In Denmark all the deaf and dumb are gratuitously educated at the two schools of that kingdom.

The continental labours in behalf of the deaf and dumb are exhibited in the last circular of the Royal Institution at Paris, from which our few preceding remarks respecting them are drawn. This work appears biennially, or triennially, as the information transmitted to the directors of that institution accumulates. It is printed by the government, and though at a considerable expense, it is sent gratuitously to all known establishments for the deaf and dumb. Its circulation, we venture to say, must effect valuable changes in the education of that unfortunate class of persons to whose interest it is devoted. The mass of intelligence which it contains on the practical parts of instruction can only be appreciated by those teachers who have directed their hearts and their minds to this work of beneficence.

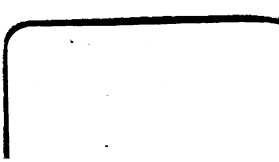
This circular, together with the details of De Gerando, the practical work of Bebian, and various publications which have appeared in Germany, have done more for the improvement of the deaf and dumb, than had been effected in the whole period which elapsed after the

discovery was made that they were not incapable of instruction.

The institutions for the deaf and dumb in England are as follows:—

	Date of Foundation.	Head Master.	Pupils.
London	1792	Mr. James Watson	230
Birmingham	1815	Mr. du Puget	45
Manchester	1824	Mr. Bingham	57
Liverpool	1825	Mr. Scott	35
Exeter	1827	Mr. Gordon	62
Doncaster	1829	Mr. C. Baker	70

There are also institutions for the deaf and dumb at Edinburgh, Paisley, Glasgow, and Aberdeen, and one at Dublin: there are none in Wales.

THE END.

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